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MEDICAL ETHICS*

A Gay Lecture on a Serious Topic

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BOSTON

IN THESE grim days when the press and the very air bring us news of heart-rending brutality, cruelty and the violation of every moral and ethical principle, it would be an agreeable interlude if even for a moment you could listen to a witty and frivolous talk, but it is probable that all of you have guessed that the adjective in my title is in reality the name of the donor of this foundation — a man decidedly as little gay in personality as he was frivolous in attitude toward his profession. Ethics is defined as the doctrine that treats of the nature and grounds of moral obligation and the rules that ought to determine conduct in accordance with it — the science of right conduct and character. The best way to show you an example would be to transport you on a magic carpet to the world of fifty or sixty years ago and introduce you to Dr. Gay, so that you might walk the wards with him, see him with his patients in office, hospital or home, or listen to him in court or at a legislative hearing. Would that I could paint a picture of him!

George Washington Gay was born in New Hampshire in 1842 of what I like to consider aristocratic lineage — that is, he was the descendant of an English yeoman who came to Massachusetts Bay in 1630. His parents were farmer-folk; he had only a country school education. Perhaps he wished to be a doctor because he had watched the fatal illness of a well-loved sister. After his father's death, he apprenticed himself to a local physician to earn a little money, borrowed more, and went to the Harvard Medical School. Undoubtedly in 1864 he "walked the wards," as the expression was, of the Boston City Hospital in the year of its foundation; he became one of its earliest surgical house officers and was at once appointed to the newly established Out-Patient Department — thus beginning a lifetime service. With intelligence, courage and an accurate knowledge of anatomy, and inspired by the dawn of the Golden Age of Medicine, he became an accomplished surgeon. He ligated successfully the subclavian, innominate and common carotid arteries, which is testimony to his prowess appropriate to those times. He lectured on surgery, and his students have not forgotten such terse epigrams as: "Every sprain of the wrist is a Colles fracture, every contusion of the hip is a fracture of the neck of the femur, until proved otherwise."

Having no children, perhaps Dr. Gay was the more completely absorbed in promoting the happiness and success of his students and colleagues. Little that was good which needed encouragement — little that was wrong which needed correction — escaped him. As he played a part and later watched the actors on the medical stage, he saw with regret that some of them violated certain moral obligations and rules of conduct pertaining thereto, and thus worked harm to the reputation of the profession and to those who practiced it. And still mindful of the happiness of physicians, he noted their ineptness in business matters and the frequency with which old age, overtaking them after a lifetime of work, found them with but inadequate financial security for their declining years. He therefore created here a lectureship, hoping thus to help them understand these things that were outside their purely professional education. And so it happens to be my privilege to try to carry out a part at least of my old friend and teacher's wish. We might dismiss the matter with the inevitable trite but true statement that behaving like gentlemen and observing the Golden Rule would prevent all ethical blunders. Most of us, however, need a more explicit warning of the pitfalls and perplexities that lurk in the peculiar

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situations created by the practice of medicine, a fact that has been recognized since Hammurabi, emperor of Babylonia, through the School of Hippocratic physicians, down to the present time. Most organized bodies of physicians have promulgated codes of ethics: that of the American Medical Association, printed as a booklet for distribution, is quite long and explicit, whereas that of the Massachusetts Medical Society deals in its three hundred words with the broadest general principles. Inevitably the manners and social attitudes of the physician are related to the ethical customs, which in turn are interwoven with important problems inherent in the art as distinguished from the science of medicine. These things cannot be taught; the human soil in which flourish the instincts and principles of right conduct was bequeathed to you by your forebears and cultivated at your mother's knee and by your father's side through the years of infancy, childhood and adolescence; if it is not fruitful it is too late now to alter its chemistry, but the vines that spring from it may still be cultivated and the tares uprooted.

It is convenient and conventional to think of the relations of the physician in three categories,—with his patients, with his fellow physicians and with society at large,—yet evidently these are closely related. Mention of them, however, helps a little to clarify an inquiry.

Medicine is certainly a learned, and is usually spoken of as a liberal profession, meaning by liberal, a profession controlled by no narrow doctrine, but receptive to any true advance from any source, whose professors share with each other and with the world their discoveries and methods without thought of deriving from them exclusive personal profit. Thus there is a fairly clear distinction between such a profession and a commercial business or trade, although this has become less clear since business has been touched with the magic of academic edict as "the newest of the professions," and medicine has been commercialized by some of those who practice it. Nevertheless, it is not unreasonable to think of business as primarily concerned with making a profit from its transactions, and of a liberal profession as primarily concerned with rendering service to society, with personal profit as a means to an end rather than the chief objective.

Thus, "a spirit of competition considered honorable in purely business transactions cannot exist among physicians without diminishing their usefulness and lowering the dignity of the profession." Such competition is likely to be evidenced in two ways: directly by efforts to divert to one's self the practice of others, and indirectly by advertising.

Thus is raised the question of what, if any, proprietorship a physician has in a patient, and vice versa. Formerly, when general practice was the rule and specialism the exception, and when communities were smaller and more closely knit socially, the physician had his families whom he attended from birth to death, in a spirit of mutual loyalty. Medical science was far less advanced; one doctor was likely to know about as much as another, and the relief that he gave his patient was owing as much to the sympathetic understanding and confidence between the two as to the actual application of scientific methods. Nowadays the advent of specialism always raises the question in the patient's mind whether his physician is the right man to treat his particular complaint. We all know that specialism is the indispensable way in which scientific medicine has been advanced; we also know that when the particular problems in some field have been explored and solved by special study, and methods of treatment perfected, many of these problems may be confidently returned to the care of a progressive general practitioner. If disadvantages arise from overemphasis on specialism, it is by no means all the fault of the medical profession. The laity, partially educated in medicine by modern-day journalism to a point where anxiety may be aroused without a corresponding acquisition of knowledge and common sense, demand specialism. An experience of my own will illustrate this. Dupuytren's contraction of the fascia of the palm is well known but uncommon in the late stages, when the deformity causes real annoyance. It happened that the relief of this condition by an extensive, radical dissection of the palm, which gave much better results than simpler and easier operations, interested me and I operated, with satisfactory results, on the few cases which came my way in hospital and private practice. Doubtless these palms were exhibited in the community, for on more than one occasion people with complaints within my field of general and especially abdominal surgery asked me to recommend a surgeon, and when I remarked that their condition was one that I was accustomed to operate on, I was greeted by the surprised rejoinder: "Why, I thought you were a specialist in hands and crooked fingers!" Imagine trying to make a living on Dupuytren's contractions!

Let us try to be specific about this matter of the proprietorship of patients. It is fundamental that a patient has an inalienable right to consult any physician he chooses, with that physician's consent. Any ethical customs that seem to deny this are based merely on principles of courtesy, consideration for the feelings of others and the real advantage of the patient himself. Clearly, if a doctor has for years been the trusted adviser of a family group, and has thus become familiar with the physical, nervous and mental reactions of its members, he is likely to be able to treat their illnesses with especial skill and sympathetic understanding. Clearly, if a doctor is in actual charge of a continuing illness, the sudden substitution of another physician will interrupt continuity of treatment and lose the advantages of personal knowledge of the earlier phases of the disease. Moreover, it is inevitable that were a doctor subject to dismissal at the caprice of his patient, he could not possibly feel the interest that springs from loyalty and a realization of appreciated service. Thus we can understand the medical ethic which decrees that "except in case of pressing emergency a physician should not consent to take charge of the patient of another physician," and in case he does so, should return him at the earliest opportunity. What, then, becomes of the inalienable right before alluded to? Simply this: the physician called to take charge of the patient of a brother practitioner should insist that the patient himself notify the other doctor of his dismissal; he would be wise also to have, if possible, a friendly talk with him by telephone or in person.

The laity often complain that they are estopped by medical ethics from having the physicians whom they want. As will be seen from what I have just said, all that doctors ask is courteous treatment and the assumption by the patient himself of full responsibility. The best solution of the patient's desire to have other advice is the consultation. Every physician worthy of the name should welcome a consultation with another authority whom he respects; he has a right to refuse to call a man who does not meet this requirement. The conscientious doctor will always ask for a consultation if he is in doubt about the plan and course of treatment; he will be wise if he also does so whenever he detects a wavering of confidence on the part of the patient or his family. I consider it wishful thinking to say that the asking for a consultation by a physician may not plant doubt and anxiety in the patient's mind, but it need not do so if he is a person of sense who sees in it the act of a broad-minded physician who will leave no stone unturned to combat his disease. Much depends, of course, on the tact and attitude of the consultant, whose suggestions must not connote criticism of what has been done; it is perfectly possible to change a diagnosis and prescribe a different course of treatment if the matter is approached with tact and consideration for the feelings of all concerned. Sometimes, however, it is inevitable that the patient — or more probably his friends — will insist that the consultant take over the care of the case. Positively, this may not be done without the full consent of the attendant; practically, it is best that it be avoided, if possible. Perhaps the dilemma may be solved by an agreement to see the patient again at suitable intervals without the formality attending a first consultation; sometimes it has been thought best to agree on another physician to take charge. Everything must be done, consistent with the patient's welfare, to prevent the conscientious physician who is willing to call a consultant from thereby losing his patient.

Let us return to a comparison of the customs of a liberal profession and a commercial business, especially in the matter of advertising. It is not necessary to invoke the authority of the late P. T. Barnum, supershowman, as to the secret of his success, to prove that advertising will bring material reward, but it needs no argument to prove that a liberal and learned profession would lose its dignity and repute if it adopted such methods. Advertising makes its appeal through the senses to the emotions by methods of persuasion, exaggeration and overstatement sometimes bordering on deception. The time-honored viewpoint of the leaders of our profession that a physician should be advertised among the laity only by the inevitable spreading of good reports about him by his satisfied patients, and among his colleagues by his participation in medical meetings and his contributions to medical periodicals, which give a perfectly proper account of what he is interested in and what he is doing, is still sound. The grosser forms of publicity need not be enumerated. Professional cards should be sent only to colleagues and bona fide patients and published only in medical journals, an exception being the custom of placing a card with name, address and specialty in newspapers of cities with large foreign-born population to help those who are handicapped by language difficulties in finding a doctor. No circular or statement descriptive of a physician's methods or achievements should be published or circulated. Of late years the daily press has succeeded in creating and whetting in the public an insatiable appetite for medical news, and boards of health, educational institutions and private groups have adopted as their duty the education of the people in medical matters. In this com-

petition for acceptable news to fill their columns, the papers report medical lectures, publish excerpts from medical periodicals and importune physicians to grant interviews and write articles on purely medical topics. It cannot be denied that if Dr. John Doe, of 10 Harley Street, who is a specialist in cardiology, gives a popular lecture on heart disease before some fraternal association and their ladies, which is reported in the morning paper, he will have secured a most effective advertisement at the expense of his more conservative and less vocal colleagues. To inform the public properly in regard to health matters, without undesirable publicity for the physician, is a delicate matter. Such material should be supplied by medical columnists who are not practitioners, or by the secretary or a committee of a medical society, or at least under the aegis of an educational institution. It is an age of publicity: you probably cannot keep out of the newspapers but you can discourage and refuse to have a part in anything that through its quality as an advertisement tends to give you an advantage over your colleagues.

One subject in connection with ethics that seems scarcely worth discussing among gentlemen is the inviolability of the confidential relation between patient and doctor. The physician on occasion may have to inquire about the most intimate matters, — the patient may have to bare his soul, if his ills are to be helped. The revealing of such things to a third party almost inevitably leads to the dissemination of gossip, false rumors, notoriety and unhappiness, and if traced to its source, destroys the confidence of the patient in his physician. Such situations are more apt to arise in small communities where people are well known to each other than in urban practice. Two exceptions to the obligation of professional reticence exist: in a Massachusetts court of law there is no such thing as a privileged communication, and a doctor may be subpoenaed and required to tell the facts in his possession; the second exception is in connection with communicable diseases in which silence may jeopardize the public health or the health and happiness of an innocent person. A simple statement to the patient of your plain duty in the matter will convince him that he must adjust it, or allow you to, in the way best for the public interest.

No question on the fringe of medical ethics is more troublesome than the remuneration of physicians. There is no accepted scale of fees, the nearest being the fee tables agreed upon by some local medical society for local application only, and hortatory rather than obligatory on its members. There was once a Boston Medical Society, which issued such a table, now long obsolete. Actually at one extreme stands the old-fashioned family doctor in the country, whose fame is sung in fiction, biography and poetry; who sent no bills, kept no books, collected a little cash but a great many commodities on which he and his family lived. His expenses were very small. How much he influenced the course of the diseases which he treated is problematical, but when he died the whole countryside mourned his passing. At the other extreme stands the surgical specialist who may charge what the traffic will bear. Our local code says that "with the understanding and consent of their patients beforehand, physicians may place any value upon their services deemed proper."

But who shall decide what is to be "deemed proper"? There is no regulating body, the nearest approach being the various types of sickness insurance and group medicine schemes that are springing up over the country. The lay public sometimes protest that they cannot understand the necessity for the sliding scale that generally obtains under our free institutions, but the explanation is simple enough. On the one hand the physician, being a liberal-minded man practicing an altruistic profession, is traditionally glad to donate his services to the poor, to lessen his charges to those of small means; to make full charges only to those who can pay them without being crippled thereby. It was a tradition in old New England that a doctor should expect and plan that at least two fifths of his work was likely to be unremunerative. On the other hand the physician has a right to expect to earn a decent living; he has spent the best years of his life and many thousands of dollars in preparing himself; his earning power amounts to little before he is thirty; if in city practice, he is likely to find himself shelved by an age-retirement hospital ordinance at sixty-three, and there is always the intervening threat of coronary occlusion. Moreover, his overhead expenses for office and instruments of precision for diagnosis or therapeusis are vastly greater than his father's were. To support his family and provide for old-age security on the precarious collection of small fees certainly demands great industry and good health, and justifies the charging of generous sums in appropriate cases. And who can say what a physician's services are worth? Apologists for huge fees say that there is no limit to the value of the successful conduct of a case of lobar pneumonia, or for saving a life or for making it tolerable by a surgical operation. No doubt a millionaire would agree that he would give nine tenths of his fortune if it were necessary to save his life, but

the point is that it is not necessary, since there are probably dozens, scores or hundreds of other physicians available who could render the same service. An infinite number of workers, some conspicuous and some humble, daily do work on the skillful performance of which depend the lives of countless citizens: the engineer, the engine driver, the mechanic who repairs the steering gear. It is impossible to compute the dollar value of human life and use it in determining fees.

What is the objection to charging fees if they may be collected? One reason is, of course, that the fee may be a financial burden that makes the doctor's services more of a misfortune than a blessing. A second is that it may become the subject of dissatisfaction, remonstrance or even litigation, which destroys the mutual confidence between physician and patient, and the gratitude of the latter toward him who should be his benefactor. A third is that the report of a large fee imposed travels far and wide, like any sensational bit of news, and creates in the public at large the conviction that doctors are overpaid, mercenary persons whose services are not within the reach of people of moderate means. Thus are the public turned toward free clinics. A peculiarly unlovely form of overcharge might be called "raiding the estate." Some physicians, if their patient has died, seem to consider that so long as the deceased has no further use for his property, it is proper to make a large charge to be paid by the executors, whereas in fact those formerly dependent on the deceased may find themselves seriously embarrassed by the loss of his earning power. But the chief argument against huge fees is a spiritual one: the degradation of the physician's ideal from that of service to that of selfish personal advantage.

I recommend a simple way of dealing with this question, namely, the direct approach, which ought not to be criticized on the ground of poor taste or lack of dignity, because the freeing of the patient so far as possible from financial worry is often an important factor in his recovery. Except when the patient and his resources and attitudes are well known to you, ask him frankly if he would like to discuss the probable cost of your services. If he says there is no need, well and good, but nine times out of ten he will welcome the suggestion. Then name a suitable maximum charge, which you consider your services to be worth, and say that you are accustomed to scale down your charges in case of need to a certain irreducible minimum, which you are justified in maintaining, because if it is not worth your while to work below that figure, the patient's needs may be provided for by referring him to a younger but fully competent man or, if necessary, to a free clinic. Often it may be acceptable to calculate with him the total cost of his illness, including hospital care, nursing and incidentals, and on occasions I have promised that the total cost shall not exceed a certain sum, with the implication that my fee would be proportionately less in case other expenses were unexpectedly large. These methods in my experience have brought satisfaction and a minimum of disputes. The plan adopted by some busy doctors, or especially by highly organized clinics, of having professional charges entirely arranged by a paid fiscal agent seems open to objection on the ground that it cannot be a satisfactory substitute for the sensitive perceptions of a conscientious physician; it is enough to remind you that the cashier is primarily a business person.

Here it is appropriate to say a word about collecting the money you have earned. If cash is offered, you had better accept it. For most services you will send a bill at a convenient time, or on the first of the month, or quarterly. It should be itemized in a broad way,—the inclusive dates, the number of visits, the special services, — so that the patient will know what he is asked to pay for. If monthly or quarterly reminders and a personal letter or two are ignored, you must decide whether to let the matter drop or to employ a collecting agency or your own lawyer: If an agency, you must satisfy yourself that the methods it proposes to employ have your approval. The threat of legal action is implied in any measures taken by an agency, and although a letter from an agency or lawyer may be sufficient, it is only too likely that further steps — attaching a patient's property or a lawsuit — may be advised. I strongly advise against either of these measures; although justified by rules of strict justice, they tend to identify the rendering of medical service with the sale of goods, they inevitably lead to the permanent loss of your patient, to the spreading of ill reports about your mercenary attitude, and not infrequently to the filing of a countersuit for malpractice by an angered and dissatisfied patient. But once in my life have I threatened suit for payment, and that was when I was virtually accused of homicide by the frenzied parents of a child whose attack of acute appendicitis they had neglected; I recovered a small fee, which was poor compensation for my expenditure of nervous energy, and I could not be sure that the parents' moral outlook had been helped.

In connection with what has been said about the fallacy that a physician has a proprietary interest in his patients, it should be added that, con-

trary to an opinion widely held among the laity, you are under no legal obligation to undertake the care of a patient. In a pressing emergency there is, of course, a compelling moral obligation to respond, and a case once undertaken may not be relinquished until it is placed in other competent hands. If you are called, especially at night, by a person unknown to you, to a distant locality, it is well to act with caution; a good expedient is to recommend that a local physician in the neighborhood be called, and say that you will respond if he finds it necessary to ask for your assistance — for this purpose make it a practice to know the names of reliable doctors in the various sections of your city. If you go without this precaution, leave your watch and wallet at home. There is another aspect of night calls, however: there seems to be a tendency among some practitioners to shirk the tiresome and onerous things. Not long ago one of those rarely fortunate men who lived at a period and in a locality that permitted him to do general practice and cultivate a specialty as a hobby told me that he was called at night by a lady whose family he had formerly attended for many years, who apologized for calling him to come to see her grandchild, who seemed acutely ill. "But my dear Mrs. Blank," he said, "you know I am eighty-three years of age, and that some time ago I turned you over to my young friend, Dr. John Doe. Why do you not call him?" "I have just done so," she replied, "and he said that he does not go out nights." The old doctor assured her that either he or Dr. Doe would be over as soon as possible, and it is scarcely necessary to say that a telephone call from the older to the younger practitioner brought relief to Mrs. Blank's anxieties.

It is surely sound ethics that everybody who applies to you as a sufferer seeking relief must be enabled to obtain that relief. I have tried to make it a point of honor to see that anyone who came to me for advice and whom, for one reason or another, I could not handle should be definitely placed in the hands of a competent colleague or recommended to an appropriate clinic — such reference being accomplished and assured, if possible, by personal communication, and the patient being told to let me know if he is still at a loss.

A problem that has always plagued doctors and about which there is some difference of opinion is our attitude toward the quasi-medical cults. It is safe to say that there always have been and always will be those who profess to heal the ills of mankind by methods based on a mistaken all-inclusive doctrine rather than under the guidance of scientific knowledge. Much as we pity those unfortunates who are the victims of these cultists, it is a mistake to castigate, scorn or hold the latter up to ridicule, since experience shows that this avails but little except to excite the suspicion of intolerance, jealousy and the existence of a "medical trust." This is especially true, of course, in cults founded on religious belief, in which criticism may profoundly wound the spiritual nature of those who profess them. But there is another side. If we subscribe to the doctrines so well expressed in our code that "physicians should encourage sound medical learning and uphold in the community correct views of the powers and limitations of the science and art of medicine, and should clearly maintain the distinction between legitimate medicine and quackery," it is difficult to see how we can honorably consult with a cultist over a medical problem. A consultation implies a common basis of belief. Would it be profitable for a scientific physicist to confer about a subject in his field with a man who believes that the earth is a flat disk? And yet there is said to be much consulting between regular physicians and cultists, which cannot fail, it seems, to dignify and strengthen the cultists in the eyes of the laity. "But," you will ask, "are not the interests of the patient paramount, and can I not help him by consulting with his cultist adviser?" Certainly his interests as a sick man are paramount, and your consultation may help him, though under the circumstances, not with certainty. The way out of the dilemma that I suggest is to agree to the consultation on the condition that you be permitted to explain to the patient that you do not subscribe to his adviser's doctrines and fear that your reliance on medical science will not be acceptable to him. If the patient and his friends are anxious enough, they will insist on having you, but your reputation among the other group as a desirable consultant is not likely to grow.

When my crusading spirit was stronger than it is now, I sometimes tried to bring a lost sheep back into the fold, always with disappointing results. On one occasion I was consulted by a lady who some months previously had discovered a small lump in the breast. According to her story she consulted a practitioner of a cult employing manipulative therapy, who stated that he found an abnormal condition of the fourth dorsal vertebra at the same horizontal plane as the breast lesion, for which it was undoubtedly responsible. Three times a week for some months he manipulated the spine, and at the end of each visit he did something to the breast lesion that I was given to understand by him was not rubbing or massage but something involving very special skill because

it was done with the heel of the hand. When I examined the patient, there was presented a still small primary tumor showing every characteristic of a carcinoma, but the striking thing was the presence of involved nodes in the axilla and a number of small metastatic lesions in the skin surrounding the tumor — something that I have not seen before or since in so early a case and that must have been due apparently to the manipulation. A radical extirpation with skin graft was done, with the inevitable sequel some years later. I found it hard to believe that this practitioner would not be aghast when brought to full realization of what he was doing. In a friendly and conciliatory spirit I invited him to witness the operation; he did not appear. I then invited him to come to the laboratory where the fresh specimen was being preserved so that it might be demonstrated to him by Dr. Wolbach. In answer he wrote a letter saying, among other things, that he guessed that if Dr. Cheever had cured without mortality by operation as many fibroid tumors of the uterus as he had by his special manipulation of the spine, he would not have such an ill idea of the methods of the cult. Feeling that this man was a menace to society, I brought the facts to the attention of the authorities, who, after a hearing, admonished him! I like to believe that I accomplished something in this case: perhaps there was satisfaction in hearing that word went forth among the professors of that particular cult to "'ware Cheever!"

A practical matter which should be mentioned relates to the attitude and duties of a physician as a witness in court. You can be subpoenaed like anyone else and must testify to facts in your possession; if you are asked your opinion or a hypothetical question, you have a right to insist that you be qualified as an expert witness. It has before been stated that no communication between doctor and patient is privileged in a Massachusetts court. Expert testimony in the innumerable cases in which a medical opinion plays a part should be an opportunity for the physician to render important public service, but as a matter of fact, since he is almost always called by counsel for the plaintiff or defendant, there is strong incentive for him to become a medical advocate, and the limitations of the rules of evidence and the ingenious harassment of the cross-examination often make him feel that he has actually been unable to say exactly what he wanted. A special perplexity confronts the physician when he is asked to testify for the plaintiff in a suit for malpractice against a brother practitioner. So loth are most doctors to do this that there is complaint on the part of lawyers that it is next to impossible to obtain such testimony, and it is even averred that a state medical society would punish one member for testifying against another. There is of course no ground for such a statement. Organized medicine simply requires that in this as in all other professional duties its members be guided by strict honesty and fairness. As a matter of fact, most cases of malpractice that are tried in court have little or no merit and are simply efforts on the part of a patient and his lawyer to turn an unavoidable misfortune to pecuniary advantage; the few cases in which the defendant physician is legally at fault are usually settled out of court. A physician asked by a lawyer to testify against another, should examine the records and inquire into the circumstances with the greatest care, should go over the matter with the defendant physician and consider carefully what he would have done if he had been placed in the defendant's position, and should convince the attorney that he proposes to be uncompromising in his refusal to permit himself to become an advocate. It is almost unbelievable that some physicians will lightheartedly agree with a lawyer friend to testify in court and answer hypothetical questions without having done any of these things, when the price of the loss of the suit by the defendant physician may be his reputation and many thousands of dollars. Such action on the part of a member of a medical society is indeed ground for critical inquiry by its officers.

Is it imperative and wise, or unwise and wrong, to tell the patient the truth about his disease and its prognosis? This question arises of course almost solely in cases of cancer. There are three types of people to be considered: first, those of mature age who ask for the truth in such a manner as to leave no doubt of their sincerity — these people are exercising their personal right to information and should be told with such mitigations as are possible; secondly, those who ask in a halfhearted way and do not press the question and in the circumstances of whose lives there appears to be no cause to feel that the knowledge is needed for any reason; and finally those who do not ask. How foolish it would be to tell a woman — a cancerophobe as most women are — who has undergone a successful operation known statistically to promise 75 per cent of five-year cures, that her disease was cancer! How cruel to tell a woman ignorant of her hopelessly malignant internal disease and happy in her fancied security, if there are no vital issues to be settled before the end. There is no disagreement, I think, on the rule that one nearest and most responsible

relative or friend should be told the exact situation as you see it, again with what mitigation and exceptions you can honestly make; then tell no other questioners, but refer them to the confidant whom you have chosen. Whether or not an actual prevarication is permissible must be left to your own conscience, but it is rarely necessary, since tact and evasion will usually suffice, but perhaps, like me, you cannot see the fine distinction between these courses.

Rereading what I have written, the same thought occurs to me as did when I somewhat reluctantly agreed to undertake this lecture, namely, that these problems of medical ethics seem trivial and hardly worth considering while catastrophic forces of greed and cruel brutality are tearing to pieces the world of democratic culture in Europe and Asia, and even more widely the formerly accepted canons of morality in social behavior and in the economic field are being questioned and shaken to their foundations. But it is precisely at such a time that one must hold fast to what is good. Even now our profession, in company perhaps with but one or two others, motivated by as pure ideals as are possible to earthly man, is pursuing its self-appointed destiny of relieving illness and pain wherever possible. It is a noble profession in its possibilities for service, but its nobility will be but a name unless it is practiced nobly. Never were the responsibilities greater of those who now practice and teach it and of you who are being trained to the succession. The chemical and physical agents that science has placed in our hands are powerful for harm as well as for good, and constant study is the price we pay for the ability to render our patients the service that is their due. Attacks on our profession by social demagogues, the general spirit of questioning of and revolt against authority, which is rife in the community, sometimes the little knowledge that is proverbially so dangerous, which is fed to the people by many sources — all these tend to undermine the confidence of the public in the medical profession, and every candid, thoughtful man among us knows that the selfishness, intolerance and greed of a few of our members are contributing to the same result. At our school here you have gained factual knowledge, clinical experience and an appreciation of the scientific method, but it would be a sorry thing indeed if you had not found and admired in your teachers those qualities of the heart and spirit that are more potent than science itself to make our profession a noble one. During forty-four years I have lived and had my being among our teachers and students, and I think that I can assure the shade of Dr. Gay that we are carrying on!

193 Marlboro Street

THE MENOPAUSE: A HORMONIC AND THERAPEUTIC STUDY*

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BOSTON

ALTHOUGH repeated investigations[1-4] have identified the changes in hormone balance that accompany cessation of menstruation at the menopause, and have shown that available hormone extracts are effective in compensating this dyscrasia, the treatment of the menopausal patient is still a vexatious and often unsatisfactory task, and there is no unanimity concerning the indications for treatment, hormonal or otherwise, during the so-called "change of life." Novak[5] states that the majority of women need no organotherapy whatever during the menopause, whereas Hawkinson,[6] from a study of 1000 cases, believes that "menopause without distress is unusual." More specifically, Frank, Goldberger and Spielman[3] carried out an enormous number of assays of estrogens and gonadotropins in the urine and blood of menopausal women, and found evidence of anterior pituitary overload in the blood in less than 50 per cent of such patients. Geist and Mintz[7] call attention to the lack of correlation between the excretion of these hormones and the presence of menopausal symptoms. Albright[4] concluded from his careful study that the vasomotor symptoms of the menopause are due directly to an overproduction of prolan, and that when this overproduction is controlled by estrin therapy, those symptoms are either markedly diminished or disappear, whereas Frank, Goldberger and Salmon[8] believed that no permanent relief results from estrin treatment. Pratt and Thomas[9] report that in a series of 100 patients relief was obtained about equally from treatment with estrogens, phenobarbital, lactose, injections of oil containing no estrogen and bromide.

These apparently conflicting opinions leave "confusion worse confounded," unless they can be explained by further study of the menopausal syndrome. At the outset of such a study, several established facts must be recognized, the most important of which is that the syndrome in question is almost unique, since the diagnosis is usually made, not by the physician, but by the patient, and since the symptoms are almost entirely subjective, protean in character, and not related to any demonstrable physical signs. It is quite possible that more than one factor is responsible for the menopausal syndrome, and the great variance of the symptoms encountered in different patients is strong presumptive evidence of their multiple causation. Further study is still needed to determine the correlation between the hormone assays, the predominant symptoms and the responses to different forms of treatment in a significant number of patients.

To that end, this report includes only patients for whom the above data were satisfactorily determined. On admission to the clinic, each patient was examined thoroughly in the medical department before being referred to the Endocrine Clinic, where an additional history of the duration, severity and type of symptoms was obtained, and the hormone assays and other indicated studies were carried out. In taking the histories, an effort was made to get a spontaneous statement from each patient concerning her symptoms, because it was believed that this method would help to determine their relative severity and importance. The presence or absence of typical symptoms not mentioned by the patient was then determined by direct questions. For an initial period of approximately two weeks, or until the hormone assays of the urine were completed, every patient, irrespective of the type of symptoms she complained of, was treated with injections of sesame oil or with a sedative — bromides or phenobarbital. When the assays were completed, the patients with positive prolan tests were given injections of estrin in oil§; the usual dose was 10,000 rat units two or three times a week, but varied somewhat from patient to patient. Those with negative tests continued the initial therapy until its effect could be determined. If no improvement occurred, one of the other forms of treatment was substituted. In no case was the patient informed of the change from sesame oil to estrin in oil, or the reverse. When it seemed advisable and practicable, hormone assays were repeated during and at the end of treatment.

By this method it was possible, in 100 of the 131 women studied, to compare the results of the three forms of treatment in each patient, and in most cases to correlate both symptoms and results of treatment with the hormone assays. For convenience, symptoms were divided into three groups:

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§Theelin in Oil and Progynon B, supplied, respectively, through the courtesy of Parke, Davis and Company, Detroit, and Schering Corporation, Bloomfield, New Jersey.

those apparently associated with unstable vasomotor control, those obviously due to nervous instability, and those labeled, for want of a better term, "metabolic symptoms." In this last group were placed such uncommon symptoms as marked physical exhaustion not associated with nervous depression, and arthralgia without demonstrable joint disease. The patients were divided into two groups: those whose urine gave a positive test for prolan, and those whose urine contained no demonstrable prolan. No attempt was made to group patients on the basis of the estrin determinations, because no correlation could be established between a patient's symptoms and the presence or absence of small amounts of estrins.

The patients were therefore separated into two groups, according to the results of the urinary prolan assays, and the same criteria were applied to each. The groups were practically identical in size: 48 patients yielded positive tests for prolan, whereas negative tests were obtained in 52. It is perhaps significant that there was a considerable difference in the average age of the two groups — 44.0 years for the positive, and 49.5 years for the negative. Eliminating all patients in whom menopause had been artificially induced did not alter the difference significantly: the negative group still exhibited 5.3 years' seniority.

A similar difference was found in the duration of the symptoms. The average duration in the patients whose urine yielded a positive prolan test was 2.4 years, in those with negative tests 3.2 years. Excluding induced menopause, the averages became 1.4 and 2.5 years respectively. It is, of course, impossible to accept as accurate a patient's statements about the duration of symptoms, but the error was probably equal in each group and was consequently not significant. Even in patients in whom menopause had been induced by surgery or irradiation, and who therefore could be definitely dated, the differences persisted practically unchanged: 3.8 years for the positive group, and 4.9 years for the negative. The greater average age, and the longer duration of symptoms suggest that the women who composed the prolan-negative group may have passed through the endocrine disturbance characteristic of the menopause, and that they may have achieved the hormone balance characteristic of postclimacteric, symptom-free patients.

This possibility acquires practical significance when the predominant symptoms of the two groups are compared. In 81 per cent of patients in whom the prolan test was positive, the vasomotor symptoms — flashes, headache and giddiness — dominated the picture, and the patients either did not complain of psychic or nervous disturbances or attributed them to the irritation of the constantly recurring and often severe vasomotor symptoms. Many stated that if they could be rid of the latter, they would be perfectly well. In 61 per cent of the prolan-negative patients, on the other hand, the presenting symptoms were almost purely characteristic of a psychoneurosis, and the vasomotor symptoms dominated in only 15 per cent. In the remainder, vasomotor and psychoneurotic symptoms were so inextricably interwoven that it was impossible to weigh them satisfactorily. All such patients, however, gave a history of nervous instability that antedated the menopause by many years. It seems fair to conclude, therefore, that they represented a combination of endocrine and nonendocrine instability in which it is impossible to evaluate satisfactorily the role played by either condition.

If the two contrasting clinical pictures just outlined depend on different hormonic situations, their response to hormone treatment should differ sharply. An analysis of the results of treatment showed that 90 per cent of the prolan-positive, vasomotor group improved definitely with adequate estrin therapy, whereas only 25 per cent of the prolan-negative, psychoneurotic group were similarly benefited. The converse is also true, since only about 20 per cent of the former were helped by sesame oil or sedatives, whereas approximately 80 per cent of the latter improved very definitely during treatment with one or the other of those preparations. Inasmuch as the change from sesame oil to estrin injections could not possibly be detected by the patient, the error due to a possible psychologic factor seems inconsiderable.

From these figures it seems justifiable to construct a working hypothesis concerning women who seek relief from symptoms that they ascribe to the menopause. Their symptoms comprise two more or less distinct groups. In one they are preponderantly those of vasomotor instability, are associated with an excess of prolan in the urine and are relieved by treatment with estrogenic extracts in quantities sufficient to cause its disappearance from the urine. This conclusion is in agreement with the work of Albright.[4]

In the other, slightly larger group, psychoneurotic symptoms predominate, prolan is rarely found in the urine, and treatment with estrogenic extracts fails to give relief in a significant majority of cases; sedatives and psychotherapy are as a rule more effective. On the average, these patients are 5.5 years older than those in the contrasting category, and have had their symptoms over a year longer when they present themselves for treatment. These differences suggest that they have passed

through the period of endocrine imbalance, which from the point of view of endocrine therapy defines the actual menopause, and that they are more properly to be regarded as having reached the postmenopausal or senescent stage of pituitary ovarian reciprocity. Since hyperprolanism cannot be the cause of their nervous instability, some other explanation must be found. That explanation, we believe, lies partly in the psychic and nervous make-up of the patient, and partly in the fact that for centuries women have been led to expect nervous disturbances, as well as hot flashes, as inescapable features of the menopause. The psychoneurotic symptoms, therefore, represent a conditioned reflex activated by the obvious cessation of menstruation, and often aggravated, by other coincidental stresses. It must always be remembered that hyperprolanism occurs in only a small fraction of menopausal women, the majority of whom "need no organotherapy whatever," since "their symptoms are either slight, or are controlled by reassurance, avoidance of stress, physical or mental, or perhaps by simple sedatives."[5]

Between the vasomotor and the psychoneurotic groups, and exhibiting various combinations of the symptoms characteristic of each, lies a third and smaller group in which symptoms of both vasomotor and psychoneurotic instability are about equally prominent. The patients composing this group are most difficult to help. Careful questioning, however, will usually disclose the fact that their nervous instability antedated, although it may have been further activated by, the menopause, and that it will respond better to simple psychotherapy and judicious use of sedatives than to estrogenic therapy. The latter, however, may be useful in relieving them of vasomotor symptoms. In this group, hormone assays are essential to correct treatment, since the hormone status of the patient can be determined in no other way.

Conclusions

In only a small minority of women are the symptoms associated with "the change of life" sufficiently severe to compel them to consult a physician.

A test for prolan in the urine was positive in only 48 of 100 women admitted to our clinic because of the severity of their menopausal symptoms. In 81 per cent of this group the symptoms were preponderantly those of vasomotor instability, and 90 per cent of these patients were definitely benefited by adequate treatment with estrin.

In the remaining 52 per cent the test for urinary prolan was negative. Treatment with estrin caused improvement in only 25 per cent of the patients treated, whereas simple psychotherapy or sedation brought relief in over 80 per cent. The patients in this group were older, and had had symptoms significantly longer, than those who were benefited by estrin treatment.

No relation was evident in either group between the presence or absence of estrin alone and the character or severity of symptoms.

A predominance of vasomotor symptoms in a menopausal woman is suggestive of an overactive prolan production, but treatment with estrin should not be instituted until urinary assay proves that prolan is being excreted. Coincidental estrin determinations are interesting but not essential.

If treatment with estrin is indicated, it should be given in effective amounts. Failure to relieve the vasomotor symptoms in a patient with positive prolan assays is probably due to insufficient dosage. The effective dosage in any patient is an individual equation.

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ALCOHOLISM: SOME CONTEMPORARY OPINIONS*

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BOSTON

A SYMPOSIUM on alcoholism was held in Philadelphia on December 27, 28 and 29, 1940, during the annual meeting of the American Association for the Advancement of Science, sponsored by the Research Council on Problems of Alcohol. Six special sessions were closed by a public meeting on the evening of December 29. All sessions were well attended by physicians, psychiatrists, sociologists, lawyers, members of the clergy and others.

The program was planned to cover all aspects of the alcohol problem, beginning with physiologic and chemical considerations and the clinical aspects, to which the first day was devoted. The neuropsychiatric features and the treatment and prevention of alcoholism were the subjects of the second day. The third day was devoted to social and legal problems. The final address, in addition to the original contribution of Dr. Abraham Myerson, summarized and discussed the entire field and pointed out several trends that would affect the immediate future of research on alcoholism.

In his introductory remarks on the morning of December 27, Dr. Winfred Overholser, superintendent of St. Elizabeths Hospital, Washington, D. C., described the nature and extent of alcoholism. He cited illustrative statistics, and, as one of the founders, he outlined the history and aims of the Research Council on Problems of Alcohol, as well as the purpose and plan of the symposium. Dr. Overholser stated:

> Although the enlightened of today recognize excessive and prolonged use of alcohol as a disorder of conduct, a disease, in some instances at least, amenable to treatment, it is a fact that throughout the United States, with the exception of the large cities, practically the only institution in which an acutely intoxicated person may be cared for is the local jail. Drunkenness in a public place is still a penal offense and, in all too many cases, it is the rule to give a short sentence to the person who is brought before the court on a charge of public intoxication, even though the judge, the court attachés, and the jail officials realize that release from jail is all too likely to be practically synonymous with further intoxication and further sentence. . . . It is extremely difficult to say just how many alcoholics there are at the present time in the United States. The statistics of arrest indicate that annually well over 100,000 persons are arrested on a charge of drunkenness, about 27,000 on a charge of driving an automobile while under the influence of liquor, and about 27,000 on a charge of disturbing the peace, an offense often associated with over-indulgence in alcohol. In addition, over 4900 persons were committed to mental hospitals in 1938 by reason of alcoholic psychosis and nearly 7600 for alcoholism without psychosis; statistics are not available as to the number admitted to the alcoholic wards of the various municipal hospitals. . . . It is safe to say that there are in the United States probably more than 100,000 persons suffering from alcoholism at the present time. Thus, with tuberculosis, cancer, syphilis, mental disease and infantile paralysis receiving competent and intelligent medical attention, we now have alcoholism as the greatest public health problem at the present time which is not being systematically attacked.

The session on physiologic and chemical considerations of alcoholism, at which Dr. Overholser presided, was opened by a paper on "The Influence of Alcohol on the Alimentary System" by Dr. A. C. Ivy, of the Northwestern University Medical School, who reported a study on the effect of alcohol on the motility of the colon and the secretion of bile. In dogs, he found that alcohol given by any route in amounts sufficient to produce moderate intoxication tended to depress the nonpropulsive and to augment the propulsive motility of the colon. The latter results were substantiated in human subjects who were given 250 cc. of Bourbon whiskey by mouth. Dr. Ivy believed that these observations provided an explanation for the irregular relief of colonic colic after ingestion of alcohol and the tendency of alcohol to cause diarrhea in certain persons. Dr. Ivy also reported his experiments in feeding 40 cc. of alcohol daily for two days to dogs with biliary fistulas. He found that there was evidence of definite injury to hepatic cells, that there was a distinct change in the chemical constitution of the bile, and that the odor of alcohol was apparent. The cholic acid content was decreased, but the animals became normal within two days after the alcohol was discontinued.

Dr. F. A. Hitchcock, of the Department of Physiology, Ohio State University, reported on "The Alterations in Respiration Caused by Alcohol." He had found that alcohol seems to accentuate normally occurring peculiarities in breathing as well as to produce a more rapid and often shallower type of respiration. In many cases, an increase in the total pulmonary ventilation might be interpreted as a stimulation of the respiratory center

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by alcohol. In two out of three subjects, the sensitivity of the respiratory apparatus was decreased to both carbon dioxide and to oxygen lack after taking alcohol. In one case, the subject showed indications of increased sensitivity, which suggests that the reaction of the other two subjects was the result of the brief duration of the period of increased sensitivity, which, if actual, may be of short duration and may be followed by a period of hyposensitivity. The alveolar carbon dioxide tension decreases in the first half hour after ingestion, and then returns to a value equal to or greater than that found before alcoholic ingestion.

"The Hypoglycemic State in Alcoholism" was the title of a paper presented by Dr. H. D. Palmer, of the Institute of the Pennsylvania Hospital. Dr. Palmer reported a number of cases in which alcoholism was a prominent symptom; in his study he found that a number of the patients showed an atypical carbohydrate metabolism, as indicated by their sugar-tolerance curves. Regulation of the diet tended to correct this condition in certain cases by stabilizing the carbohydrate metabolism and energy expenditure, and resulted in some relief of the symptom of drinking. Dr. Palmer's detailed findings were of especial interest not only on account of their relation to alcoholism but also because of their bearing on hyperinsulinism and neuropsychiatric conditions involving abnormal behavior patterns.

Dr. Henry Newman, of Stanford University School of Medicine, discussed "The Problem of Acquired Tolerance to Alcohol." Prior to Dr. Newman's study there were few satisfactory data on acquired tolerance to alcohol in human subjects except for comparisons between the metabolism of habituated and nonhabituated subjects. The hypothesis that delayed absorption of alcohol might be responsible was found by Dr. Newman to be inadequate, nor could the possibility of delayed penetration of alcohol into the nervous system serve as an explanation of variations among different patients. Dr. Newman and his associates were able to show by experimental technics that habituated subjects do not metabolize alcohol faster than nonhabituated animals. They concluded that actual tolerance to alcohol, if it can be acquired, must depend on tissue tolerance or on a difference in the behavior of the cells of the central nervous system to a given quantity of alcohol, as compared with similar reactions in nonhabituated subjects.

A paper on "The Effect of Alcohol on the Electroencephalogram" was presented by Dr. Hallowell Davis, of the Department of Physiology, Harvard Medical School. This work had been done in collaboration with the Department of Neurology and the Neurological Unit, Boston City Hospital. Dr. Davis, Dr. Frederic Gibbs and their associates studied the encephalographic tracings of six men to whom a measured quantity of alcohol had been given (2 cc. per kilogram of body weight). Psychometric examinations were made by Mr. Lowell S. Trowbridge, and blood alcohol determinations were made at intervals throughout the experiment. A spectrum analysis of several of the records by means of the Grass analyzer showed a reduction in energy on the fast side of the frequency spectrum, particularly in the range from 10 to 13 cycles, at relatively low concentrations of alcohol. At higher concentrations of blood alcohol, there were episodes of slow waves (4 to 8 cycles) that intruded into the subjects' characteristic electroencephalographic patterns and appeared in the spectrum analysis as an increase in energy in the corresponding frequency band. The performance on the psychometric tests — particularly the addition of consecutive digits, the reversed-clock problem and the strength of grip — was definitely impaired while the concentration of blood alcohol was at its height (125 to 140 mg. per 100 cc.) and for an hour thereafter, but became approximately normal in four or five hours. When the patients were clinically sober, the blood alcohol remained elevated and the electroencephalogram was still modified. The poor performance on the psychometric tests was associated with slurring speech, ataxia and emotional changes.

Dr. Curt P. Richter, of Johns Hopkins University School of Medicine, reported a series of feeding experiments in which the characteristics of alcohol as a food were considered. The study indicated the concentrations of alcohol that were acceptable to the animal subjects and permitted the exercise of choice by them. Dr. Richter's observations indicated how psychologic elements may operate in the choice of beverages.

It has been generally assumed that alcohol exerts a marked effect on the circulation because of the flushing and increased pulse rate it produces. Experimental studies as described by Dr. Arthur Grollman, of Johns Hopkins University School of Medicine, showed that it actually exerts only a minor effect on the circulation, and that this does not reflect any significant change in cardiac activity. The isolated heart is not affected by concentrations that might be encountered in a human subject. Such changes as occur in the lower animals are to a large extent secondary to other changes in the organism. Alcohol causes an increased circulatory activity in the normal human subject, but the magnitude of response is so small

that a stimulant action on the circulation cannot be inferred. According to Dr. Grollman, the so-called "beer-drinker's heart" is probably due to the plethora induced by large volumes of malted fluids rather than to their alcoholic content. The ingestion of equal amounts of alcohol-free saline solution for the same period would probably induce a similar disorder. The apparent stimulating effect of alcohol in conditions involving circulatory insufficiency is probably due to reflex stimulation of the gastrointestinal tract.

Dr. M. Geneva Gray, of Harvard Medical School, discussed "The Effect of Stimulants of Cellular Oxidation on Alcohol Metabolism," especially the higher homologues of dinitrophenol. These compounds had been studied by Heymans, who suggested that they might be more active and less toxic than the latter substance in stimulating cellular metabolism. In Dr. Gray's experiments, the blood alcohol concentration of animals given a measured amount of ethyl alcohol by oral administration was determined at intervals during three-hour experiments, and the same procedure repeated about a week later, at which time one of the higher dinitrated phenols was administered in addition. Dinitrocyclohexylphenol, dinitrothymol, dinitro-orthocresol and sodium dinitro-orthocresol were found to increase the oxidation of alcohol in cats. They were also found to be effective in increasing the in vitro oxidation of alcohol in the presence of fresh liver and muscle tissue, but to a lesser degree. Because of the potential toxicity of these drugs, Dr. Gray stated, they cannot be recommended for use in human subjects, but the results suggest a pharmacologic approach to the treatment of acute alcoholism. It is possible that if the undesirable side actions could be eliminated or attenuated by synthetic technics, substances of this general type might be utilized in active therapy.

A paper on "The Metabolism of Alcohol" by Dr. Thorne Carpenter, of the Carnegie Institution of Washington, at Boston, was read by title. The need for clarification of many points regarding the metabolism of alcoholism was pointed out, and the previous work that had been done was shown in relation to the aspects of the subjects, which remain problematical.

The clinical aspects of alcoholism were the subject of the afternoon session on December 27. Dr. Philip Piker, of Cincinnati, read a paper entitled "The Symptoms of Alcoholism," in which he described the appearance and behavior of persons under the influence of varying amounts of alcohol. The attempted correlations between alcoholic symptoms and blood alcohol levels should be regarded with skepticism in the light of Dr. Piker's findings with rabbits and human subjects.

Dr. H. Houston Merritt, of Harvard Medical School, spoke on "The Examination of the Alcoholic Patient," and described the many conditions that may be present coincidentally with alcoholic intoxication and serve to complicate the clinical picture. These include skull fracture, diabetic or uremic coma, various abnormal mental states and intoxications caused by other toxic agents. He emphasized the necessity of correct diagnosis in beginning appropriate treatment without delay. Dr. Merritt stated that examination of the cerebrospinal fluid can be particularly useful in the diagnosis of alcoholism.

"Chemical Tests in the Diagnosis of Acute Alcoholic Intoxication" was the contribution of Dr. Walter Jetter, of the Taunton State Hospital and the Department of Legal Medicine, Harvard Medical School. His paper comprised a critical survey of the available methods for the objective determination of alcohol in body fluids and tissues and described a new procedure devised by the author in which a sample of expired air forms the material for analysis. The results of psychologic tests, which had been correlated with chemical findings, were also presented.

The effect of chronic and acute alcoholism on the organs and tissues of the body, except for the liver, is not specific for alcohol. Changes that do occur are low grade, such as chronic irritation and mildly inflammatory processes possibly resulting in atrophy of the gastric mucosa, edema of the brain and irritation of the meninges, together with possible alterations in the kidneys. Cirrhosis of the liver is the only condition in which alcohol appears to play more than a minor part. These facts, pointed out by Dr. Arthur W. Wright, of Albany Medical College, suggest that the effect of alcohol, like that of other substances, is mainly physiologic and chemical rather than structural.

A new terminology was suggested by Dr. Norman Jolliffe, of Bellevue Hospital, New York City, for the diseases previously considered to be exclusively the result of alcoholism but now proved to be the effect of vitamin-deficient diets. Dr. Jolliffe suggested the terms "deficiency polyneuritis" instead of "alcoholic polyneuritis," "nicotinic acid deficiency encephalopathy" instead of "wet brain" and "pellagra" instead of "alcoholic pellagra" or "pseudopellagra." He pointed out that all deficiency diseases known to occur in man, such as scurvy, ariboflavinosis and vitamin A deficiency, also occur in alcoholic patients.

"The Causes of Death in Alcoholism" was the title of a paper by Dr. Timothy Leary, Medical Examiner of Boston. From his long and ex-

tensive experience, Dr. Leary reviewed a series of 1000 alcoholic deaths and pointed out that the alcoholic patient frequently dies from causes unrelated to alcohol itself. These include trauma, strangulation from unmasticated food or vomitus, rupture of the cardia or hemorrhage resulting from vomiting, frost-bite gangrene, pneumonia and other conditions related to exposure and avitaminoses, particularly those with central-nervous-system manifestations. Only one third of the patients in the cases reported died of acute alcoholic intoxication. That alcoholism is a disease and as such can be prevented more readily than it can be cured was stressed in this paper and in the following one by Professor Anton J. Carlson, of the Department of Physiology, University of Chicago.

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Dr. Carlson spoke on "The Alcohol Problem: Possible lines of useful research." He pointed out that a great deal of information is available regarding chronic alcoholism and temporary inebriety, and that the use of any amount of alcohol that impairs the personal, economic and social efficiency stands condemned. The realization that alcoholism is a contributory factor in producing crime and highway accidents and that it has an effect on longevity and on the germ plasm appears to be a more promising phase of research than extensions of previous studies on the effect of alcohol on the patient. The chief unknown factor in the problem remains the question why alcohol in a given amount will cause one person to become seriously intoxicated and will not affect another.

The morning session on December 28 was devoted to the neuropsychiatric features of alcoholism, and was opened by Dr. Foster Kennedy, of Cornell University Medical College, with a paper on the neurologic features encountered in chronic alcoholism. Dr. Kennedy reviewed the better-known syndromes and spoke with emphasis about alcoholic polyneuritis and cerebral conditions complicated by alcoholism. The clinical results of alcoholism in families were also discussed. Dr. Kennedy expressed the opinion that alcoholic indulgence was a factor that precipitated seizures in epileptic personalities and aggravated epilepsy when it was present in alcoholics. Dr. Kennedy's remarks were distinguished not only by their concise and scholarly quality but by the pleasing manner in which they were presented. His reference to the epidemic neuritis of 1903 at Manchester, England, was especially interesting.

Dr. Leo Alexander, of Harvard Medical School, presented a paper on "Neuropathological Findings in the Brain and Spinal Cord of Chronic Alcoholic Patients," illustrating it with many photographs of actual brain and cord specimens. Dr. Alexander stated:

> The microscopic findings may be divided into two main groups: one group in which the neural parenchyma is damaged directly and primarily, best summarized under the term neuronitis, and the second group in which the neural parenchyma is affected only indirectly by means of primary damage to the vascular system, a syndrome which has been termed Wernicke's disease. . . .
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> Wernicke's disease can be defined pathologically as a syndrome characterized by small foci with degeneration, varicose deformity, and endothelial and adventitial proliferative change of vessels, and subacute necrosis of the parenchyma, which are found predominantly around the ventricular system. Small petechial hemorrhages may frequently (but not always) be present throughout the lesions. Wernicke himself named the disease "polioencephalitis hemorrhagica superior et inferior."
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> This disease has recently been reproduced in our laboratory in a series of animal experiments adapted to create a state of vitamin B_1 deficiency more severe than that which is sufficient to cause neuronitis. This experimental disease is topographically and histopathologically identical with Wernicke's disease in man. This disease is furthermore identical with a disease produced in foxes who have been allowed to overindulge in raw fish.
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> We may, therefore, be justified to regard Wernicke's disease as caused by extreme depletion of vitamin B_1 or, more specifically in this instance, of thiamin chloride. This extreme depletion can be furthered by an over-abundant supply of other vitamins, particularly of riboflavin phosphate and of vitamins A and D. These and other combinations of over-dosage with deficiency have been used directly in our animal experiments. A similar situation is created by a raw fish diet, fish being rich in vitamins A and D and riboflavin, but deficient in vitamin B_1. In Japan, fishermen [who eat raw fish freely] are a group most outstandingly afflicted by beri-beri.
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> The majority of pathologic conditions encountered in the nervous system of chronic alcoholic patients is therefore attributable to associated vitamin deficiencies. These vitamin deficiencies are due to decreased intake by the alcoholic patient's choice or habit, decreased utilization by the diseased gastrointestinal tract, increased requirement by the increased caloric burden of metabolism, and possibly by a still unascertained specific destructive chemical effect of alcohol and fusel oils on ingested vitamins.

"The Effect of Alcohol on the Functions of the Nervous System" was described by Dr. Ross A. McFarland, of the Fatigue Laboratory, Harvard University. The psychologic findings on the mechanism of the action of alcohol bear out the theory that the main effect is cortical with an adventitious peripheral effect. Dr. McFarland pointed out that the most urgent need in psychologic experimentation is the exploration of individual tolerance to alcohol in contrast to acquired tolerance, which is termed "habituation." Such

a project can be carried out to the best advantage by the co-operation of physiologists and psychologists.

Dr. David Wechsler, of Bellevue Hospital, New York City, presented material on "The Effect of Alcohol on Mental Activity." Dr. Wechsler stated:

> In appraising the effect of alcohol on mental activity, it is necessary to distinguish between transitory changes observed in acute alcoholic intoxication and the reputed permanent changes following chronic alcoholism. Observations regarding mental changes in the two conditions, while mutually supportive, are not interchangeable. Data regarding the effects of acute alcoholic intoxication are derived largely from circumscribed experimental studies with relatively few subjects, and concern themselves primarily with changes in mental psychomotor functions following the ingestion of variable doses of alcohol. Results of these studies reveal measurable loss in mental efficiency in most of the functions investigated.
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> Controlled studies on the mental effects of chronic alcoholism, though occasionally based on larger numbers, have usually been made under such variable conditions as to furnish data hardly more valid than those obtained through clinical observation. These studies confirm the loss in mental efficiency observed under experimental conditions and, in general, indicate a progressive, though uneven, deterioration in the global functioning ability and personality structure of the chronic alcoholic patient. Outstanding is the impairment of the subjects' ability to integrate, particularly at the higher functioning levels.

Dr. Wechsler's paper summarized these tendencies as revealed in available published data and as shown in his study of 40 patients with chronic alcoholism admitted to the Bellevue Psychiatric Hospital during the period 1938-1940. The value of the quantitative methods of clinical psychology was demonstrated, and the possibilities of further study by these procedures were discussed.

"Alcoholism and Mental Disease" was the subject of a paper by Dr. Nolan D. C. Lewis, of the Psychiatric Institute of New York, who differentiated between the various mental disorders due to, or acutely released by, overindulgence in and special sensitivity to alcohol. Dr. Lewis discussed the personality factors and characteristic reactions as they appear in such conditions as pathologic intoxication, delirium tremens, acute hallucinosis, paranoid developments and alcoholic deterioration. Some of these disturbances were, in Dr. Lewis's opinion, an expression of other psychoses. The role of alcohol in certain neurogenic conditions was discussed, and the relation of these disorders to other determining elements was brought into relief.

A paper by the late Dr. Paul Schilder on the "Psychogenesis of Alcoholism" was read by Dr. Merrill Moore. According to Dr. Schilder:

> The chief effect of alcohol on psychologic function is that of reduced efficiency. There is a strong tendency toward impoverishment of associations and an egocentric form of behavior. The basic pattern of drinking varies with the situation of the individual and may be accompanied by an associated breakdown of sexual and aggressive impulses. Early childhood experiences may have required a variation in the pattern of sexuality which may appear during intoxication and may be characterized by violence. Acute alcoholic intoxication differs in the chronic alcoholic patient from that seen in an individual who is intoxicated for the first time. In the former, acute intoxication brings forward much primitive behavior with a corresponding increase in anxiety, the threat of which does not remain in the sphere of social insecurity but extends to sexual threats and even to the threat of castration and dismemberment. The chronic alcoholic patient has lived from earliest childhood in a state of insecurity, and alcohol appears to reverse this situation — at least during the period of its influence. The attitudes of parents toward children which will promote security and a normal amount of aggression and which will guarantee a reasonably free development of sexual adaptation will be powerful factors in the prevention of alcoholism.

Dr. Alexandra Adler, of Harvard Medical School, speaking on "The Individual Psychology of the Alcoholic Patient," stated:

> Alcoholism, as well as many other neuroses, represents an escape from challenge and possible defeat. Alcoholic patients are usually unwilling or unable to assume responsibility, considering themselves victims of a mysterious addiction which they feel precludes the assumption of responsibility by them. The difference in the psychology of the chronic alcoholic patient and the dipsomaniac or periodic drinker appears to be quantitative. It is said that impotence is frequent in alcoholic patients and that this causes much of their psychopathology. The individual patient may claim abnormally strong sexual powers or he may be associated with homosexual circles. A jovial mood is typical of many chronic alcoholic patients, a fact which may amount to a minimizing of the importance of certain situations and thus form an escape from the need to assume responsibility. The psychotherapy of alcoholism is not greatly different from that of other neuroses but is more difficult and is complicated by the lack of reliability of the patient and the indifferences to responsibility, as well as a marked degree of shame over previous behavior.

Dr. E. Morton Jellinek, of New York City, speaking on "Heredity, Constitution and Alcoholism," reviewed some frequently quoted statistics on alcoholism, especially those offered as evidence of hereditary factors in relation to alcohol. His scholarly analysis and his critical comments were significant and instructive. Dr. Jellinek touched briefly on the work he had in progress. In concluding, he referred to the literature and summarized some current opinions concerning the hereditary aspects of alcoholism.

Mr. Lowell Trowbridge, of Boston, gave a pa-

per on "Alcohol Absorption and Behavior in Chronic Alcoholic Patients." This study was made in a state hospital on a group of male patients who were diagnosed as chronic alcoholics. Each drank 1.5 cc. of alcohol per kilogram of body weight in a grapefruit-juice solution. The first hour following the ingestion of alcohol, and hourly for four hours thereafter, venous bloods were determined and overt behavior of the subjects was measured by psychologic tests. A fifth and final observation on behavior was made, and a final sample of blood was taken at the sixth hour. When the entire group was considered, there was some correlation between performance and blood alcohol concentration, but this was not apparent when individual members of the group were studied.

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Dr. William G. Lennox, of Harvard Medical School, discussed "The Influence of Alcohol on Convulsions in Epilepsy." Dr. Lennox reported a statistical study of the records of 1254 patients with epilepsy who were over fifteen years of age. Of these, 26 per cent used alcohol moderately, and 6 per cent used it to excess; these figures are not greater than those for a control group. Alcohol was used less by women than by men, and to the same extent by essential and symptomatic patients. There was a progressive increase among older patients. This increase was proportionately greater among men than among women. The number in whom alcohol was observed to be a factor in producing seizures was 6 per cent of all patients and 21 per cent of those who used alcohol. The proportion was greater among men than women, and among symptomatic than among essential patients. The proportion of seizures after the use of alcohol was less among older patients, and was much greater in patients who used alcohol frequently than in those who used it infrequently. In the group of frequent users 57 per cent reported that seizures sometimes or often followed indulgence. Dr. Lennox concluded:

> The physiologic or chemical mechanism by which this narcotic drug produces seizures in predisposed persons in the "sobering up" period is not clear. Various means of solving interrelated problems of alcoholism and of epilepsy are suggested. The need for an electroencephalographic survey of alcoholic patients and their relatives is particularly urgent.

On the afternoon of December 28, the treatment and prevention of alcoholism were discussed. Dr. Wilfred Bloomberg, of the Boston City Hospital, discussed the medical treatment of alcoholism, with special reference to the use of benzedrine sulfate, emphasizing the toxic action of alcohol itself. The elimination of alcohol and dehydration were considered, together with sedation of various types. Dr. Bloomberg presented a statistical report of results in 60 cases in which benzedrine sulfate was used as an aid to the treatment of the chronic phases of alcoholism.

"Treatment of the Alcoholic Addict" was the subject of a paper by Dr. Robert V. Seliger, of Johns Hopkins Hospital, who presented a discussion of hospital, farm and extramural treatment and the selection of the type of treatment, partly on the basis of the patient and his condition and partly on the basis of his life situations at the time. The importance of careful investigation of all medical, psychologic, psychiatric, social and behavior aspects and of all available facts of the case was emphasized by Dr. Seliger. The methods and procedures followed in each type of treatment were described in detail.

Dr. Karl M. Bowman, professor of psychiatry, New York University College of Medicine, and director of the Division of Psychiatry, Bellevue Hospital, reviewed the literature on the treatment of delirium tremens. The opinions of different authorities on the subject were critically evaluated. Dr. Bowman finally suggested a method for treatment based on the limitation of restraint to a minimum, the use of paraldehyde as a sedative, the combating of dehydration and acidosis by forcing fluids and giving malt, the use of a high-calorie diet in addition to insulin, and the use of vitamins — particularly the vitamin B complex.

The late Dr. Charles E. Parsons, of the Washingtonian Hospital, Boston, said in discussing "The Problems and Methods in a Hospital for Alcoholic Patients":

> There were 19.5 convictions for drunkenness per 10,000 population in Boston for the year 1938–1939 as compared with 11.31 for the same period for England, Scotland and Wales. Fifty-two per cent of the deaths from poisoning for the ten-year period of 1928–1937 for Massachusetts were due to alcohol. The Washingtonian Hospital in Boston tries to do its share in meeting these problems. It cared for 454 cases between March 1, 1940, and December 1, 1940, and the mortality rate for all cases was 0.65 per cent. . . . Because nine tenths of patients cared for are working and families are dependent on the income from the jobs, hospitalization has been limited by social and economic pressure to an average of eight days. Further care is supplemented by evening outpatient recall visits and by working parole — where the patient lives in the hospital but goes to work and returns there. This prolongs the period of protection and psychotherapy. The chief immediate problems on admission are the care of the acute alcoholic intoxication and the handling of vitamin deficiency when present. A later problem is working out psychologic and environmental adjustments.

The private psychiatric hospital was viewed by Dr. Henry M. Tiebout, physician-in-charge, Blythewood, Greenwich, Connecticut, as an important way station on the road to health. Beyond its opportunity for rehabilitating the body of the individual alcoholic patient, it has a specific job: starting the patient to think and figure straight about his problem. The paper centered about a discussion of how to effect this start toward a normal pattern of life.

Dr. Bernard Glueck, of Stony Lodge Foundation, Ossining, New York, criticized the present-day methods of treating alcoholism. He had found that the difficulties in treating the problem drinker were the resistances from patients who did not want to be cured, the commonly encountered ambivalent attitude toward treatment on the part of relatives, the absence of anxiety, discomfort and sometimes acute suffering, which in the psychoneurotic patient are the most potent motives for continuance of treatment, and the moral and esthetic prejudices that still cling to alcoholism. In view of these difficulties, it is not surprising that treatment often fails. However, as Dr. Glueck pointed out, these causes are manageable for the most part, and are not due to the inherent psychodynamics of the drinker.

Dr. Charles H. Durfee, of Rocky Meadows Farm, Wakefield, Rhode Island, undertook to correct some popular misconceptions, held by physicians and laymen alike, concerning alcoholic patients and alcoholism. He cited seven of the commoner beliefs, and then proceeded to show, from his experience in the study and treatment of alcoholic patients, the fallacies and erroneous assumptions on which these beliefs rest.

For example, contrary to the widespread notion that the use or abuse of alcohol can be controlled by will-power, Dr. Durfee maintained that will-power has relatively little to do with the problem of drinking, and that the habitual drinker cannot stop drinking merely by making up his mind not to drink. By concentrating on abstinence he is inducing a state of mind that, because of his preoccupation with the problem, is self-defeating. He is still "thinking alcohol," that is, dealing with the symptom instead of the cause, trying to think his way out of his problem instead of acting his way out. Alcohol cannot be fought: it must be circumvented, according to Dr. Durfee. The indirect approach is better than a head-on struggle with the alcoholic habit.

Dr. Durfee held that there is no alcoholic type. There are only people who drink for various reasons. Many are in need of psychiatric care. Others, whom he designated "problem-drinkers," need psychologic re-education; a few, merely redirection and reorientation. Similarly, there is no such thing as a physiologic craving for alcohol, he stated. The craving is fundamentally psychologic, expressed in the need for relief from tension. Once the drinker is relaxed and able to eat and sleep again, his need for alcohol may diminish.

Other misapprehensions dealt with included the fact that a person with a long alcoholic history is more difficult to rehabilitate than a young person, that the lone drinker is far more difficult to help than the social drinker, and that alcohol must be rigidly kept from the patient while he is under treatment.

Dr. Durfee also took issue with some of the so-called "cures" for alcoholism and exposed the erroneous and often spurious conceptions and claims underlying these cures. A genuine cure does not mean mere abstinence over shorter or longer periods of time, but results in or follows a radical personality readjustment that does away with the need for alcohol.

The morning session on December 29 covered the social and legal problems of alcoholism. Dr. Lawrence Kolb, of the United States Public Health Service, stated in a paper on "Alcoholism and Public Health":

> Alcoholism is a serious health problem that has been handled largely by police authorities, with the result that the alcoholic patient has been treated as a criminal rather than as a sick individual. Present-day methods of handling chronic alcoholic patients are ineffective or harmful. An intensive study of the prevalence and causes of alcoholism and effects of alcohol are necessary in order to establish a sound basis for better methods of prevention and cure.

"Some Statistical Facts about Alcoholism in Massachusetts" by Dr. Neil C. Dayton, of the Massachusetts Department of Mental Health, revealed that the records of one fifth of all admissions to mental hospitals in Massachusetts between 1917 and 1933 indicate that chronic alcoholism was a prominent etiologic factor. Of 56,579 first admissions in this period, 32 per cent of the male patients were classified as intemperate in the use of alcohol, and 33 per cent in addition were found to have used alcohol to some extent. The female patients among the first admissions used alcohol much less. Chronic alcoholism was highest among these patients in 1917 and lowest in 1920. The latter year was also the lowest in total admissions to mental hospitals. Both sexes showed the highest percentage of chronic alcoholism between the ages of thirty and sixty years. The incidence of alcoholism among mental patients generally bore an inverse ratio to the educational level and the economic status. Unmarried pa-

tients showed a lower incidence of alcoholism than married, widowed or divorced persons in the group studied. The urban centers were high in alcoholism, and the rural areas were low; foreign-born persons were high in intemperance, but a change in trend seemed to have occurred within a few generations. These data were derived as part of a study made in Massachusetts state mental hospitals, sponsored by the Laura E. Spelman Rockefeller Foundation.

The major problems concern the meaning of "drunkenness" and "under the influence of liquor"; the methods of proving these states exist, and the differentiation of drunkenness in relation to various other circumstances of public importance, as well as the improvement of treatment through standards based on sociologic and psychiatric knowledge, comprised the subject matter of an address by Dr. Jerome Hall, professor of law, Indiana University Law School. Dr. Hall stressed the need for uniform legislation.

Professor Edwin R. Keedy, of the University of Pennsylvania Law School, spoke of the legal responsibility of the alcoholic patient, and described the many situations in which this becomes a vital question. The relation of alcoholism to highway safety and to crimes of violence is among the commoner aspects of the legal implications of alcoholism.

Mr. Morris Ploscowe, clerk of the Court of Special Sessions, New York City, drew on his long experience with those addicted to alcohol to describe the method by which New York City handles the many persons who are arrested for drunkenness. Mr. Ploscowe admitted that these prisoners were inadequately handled, and he made a number of recommendations about their future treatment by the courts.

"The Penal and Correctional Aspects of the Alcoholic Problem," a paper by Austin H. MacCormick, executive director of the Osborne Association, pointed out the need for the establishment of colonies of the farm, forest or work-camp type for inebriates. Mr. MacCormick stated that the frequent failure of the splendid facilities for the treatment of alcoholism at Riker's Island in New York is due to the poor physical condition of the persons sent there, and to the short sentences imposed in an effort to reduce the prison population of the city. He considers at least one year, preferably a longer period, necessary to initiate rehabilitation. A substantial progress has been made in state and federal prisons, and an enlightened viewpoint prevails in many of them, where progressive officials talk of care and treatment instead of custody and punishment. However, this is not true of some county jails and local institutions.

The final session for the presentation of original papers was held on the afternoon of December 29, when the discussion of the social and legal problems of alcoholism was concluded. Dr. Horatio M. Pollock, of the New York Department of Mental Hygiene, discussed the social costs of alcoholism, reviewing available facts concerning the present-day use of alcoholic beverages in the United States, and discussing the effect of such use on economic status, employment, crime, physical illness and mental disease. Some suggestions were offered relating to ways and means of lessening the unfavorable effects of alcohol.

Mrs. Harriet R. Mowrer, of Evanston, Illinois, spoke on "Alcoholism and the Family." Mrs. Mowrer stated:

> Alcoholism is one of the many problems of personality adjustment which have their genesis in the complex of familial relationships out of which the patterns of personality are developed. The cultural background and economic adjustment are important in measuring the individual response to family organization. The alcoholic individual is characterized by shifting occupation, restlessness and lack of definite drive. There is a strong association between alcoholism and sexual factors. Marital discord is not the result of alcoholism but the result of the same etiologic factors. The alcoholic individual tends to enter marriage handicapped by some economic insecurity, dissatisfaction with occupational choice and a tendency to resort to substitute adjustment devices. The personality disorganization of the alcoholic patient can only be understood as it performs a function in the attempt at social adjustment by the individual.

"Alcohol as a Factor in Traffic Accidents" was discussed by Dr. Donald S. Berry, secretary, Committee on Tests for Intoxication, National Safety Council. He stated that about one third of all fatal traffic accidents involve a driver or a pedestrian under the influence of alcohol. The police have trouble in convicting obviously guilty drivers because the observed conditions may have been claimed to be due to illness, injury or medication. Chemical tests eliminate guesswork and have been used successfully in at least twenty-seven states. Dr. Berry recommended that they be more widely adopted.

Dr. Jeremiah P. Shalloo, of the University of Pennsylvania, speaking of the cultural factors involved in alcoholism, said:

> It is culturally imperative to toast the bride, christen the ship, seal the bargain, speed the friend, salute the New Year, celebrate good fortune, wake the dead and even symbolize and ingest the blood of the Saviour through the medium of alcohol. . . . With so many various forms of culturally approved drinking, the

> amazing result is that we have so few persons emotionally dependent on alcohol in some form. The teetotaler is, after all, equally as abnormal from the cultural standpoint as is the habitual drinker. . . . Social habits which develop in response to cultural sanctions cannot be eliminated by sumptuary legislation.

Dr. Shalloo declared that the failure of prohibition was eloquent testimony of the essentially alcoholic nature of contemporary American culture. In conclusion, he pointed out the relation of the cultural background of an alcoholic individual to the form that his addiction may assume. That alcohol has been used throughout the ages does not lessen the need for the control and prevention of alcoholism in the twentieth century, he stated.

Dr. George S. Stevenson, of the National Committee for Mental Hygiene, gave the closing paper at this session. His subject was "Education and the Control of Alcoholism." Dr. Stevenson stressed the need of mental hygiene in colleges and educational institutions, "where alcoholism often begins." He spoke of the advantages that could be utilized generally by the dissemination and application of information such as a fact-finding organization might develop. In conclusion, Dr. Stevenson emphasized the value of preventive measures that might be applied to alcoholism.

After these papers had been read, discussion from the floor was invited. Among suggestions made was one from Dr. Leo Alexander, of Boston, which was indorsed by Drs. Merrill Moore and Abraham Myerson, of Boston, namely, that a great deal of the damage caused by alcoholism might be prevented if the provisions of the Food, Drug and Cosmetic Act of 1938 were applied to the advertising and sale of alcoholic beverages. Dr. Alexander stated:

> Alcohol is both a food and a drug under the definitions of this act. The food section of this act intends . . . to protect the public from the sale of imitations under the name of the original product. If this provision were applied to alcoholic beverages, many of the so-called blended whiskeys would have to be sold under their correct name which is "imitation whiskey" or "freshly distilled grain alcohol with whiskey flavoring." There is no doubt that properly aged whiskeys are less injurious to health than freshly distilled grain alcohol. The act considers any food misbranded which is offered for sale in the name of another food or which is an imitation of another food, unless its label bears in type of uniform size and prominence the word "imitation," and, immediately thereafter, the name of the food imitated. The drug section of the act states that a drug is misbranded unless its label "bears adequate directions for use and such adequate warnings against use in those pathological conditions or by children, where its use may be dangerous to health, or against unsafe dosage or methods or duration of administration or application, in such manner and form, as are necessary for the protection of users."

The following label, in conformity with the Food, Drug and Cosmetic Act of 1938, was proposed by Drs. Alexander, Moore and Myerson:

> *DIRECTIONS FOR USE: Use moderately and not on successive days. Eat well while drinking and, if necessary, supplement food by vitamin tablets while drinking. WARNING: May be habit-forming; not for use by children. If this beverage is indulged in immoderately, it may cause intoxication (drunkenness); later, neuralgia and paralysis (neuritis) and serious mental derangement, such as delirium tremens and other curable and incurable mental diseases, as well as kidney and liver damage.*

Surgeon-General Thomas Parran, of the United States Public Health Service, presided at the final meeting, held during the evening of December 29, which was open to the public. He discussed the attitude of the federal government toward major health problems, and observed that it was not inconceivable that alcoholism might soon take its place beside those other disease conditions once thought uncontrollable but now better understood, such as tuberculosis, syphilis and cancer. Dr. Parran introduced Dr. Abraham Myerson, director of psychiatric research, Boston State Hospital, who made the principal address of the meeting. Dr. Myerson's subject was "The Social Pharmacology of Alcoholism." He stated that there is some danger that overemphasis may be laid in two directions in considering alcoholism. In the first place, the role of the vitamins should not obscure the fact that alcohol is in itself a narcotic drug and that it very probably has chronic effects that are independent of the role of the vitamins or, if not independent, of primary intrinsic importance. This also brings to light the fact that certain drugs have a useful role in the treatment of acute and chronic alcoholism, especially amphetamine sulfate, Metrazol and the combination of insulin and glucose.

The second overemphasis may be placed on the neurosis of the alcoholic patient. It is perfectly true that the person who becomes chronically addicted does so in response to social and emotional difficulty. Yet there are people in the population who do not become alcoholic, who have plenty of social and emotional difficulty, and who have a high incidence of other neuroses and psychoses. Dr. Myerson concluded:

> It must be taken into account that the social attitude toward the drinking of alcohol is one of the most

important things in our civilization. Thus, alcohol is the drug used to enhance good fellowship and to evince gaiety and celebration as well as ceremony. In other words, to class it simply as a drug of escape or for the purpose of bringing about oblivion is only expressing one phase of its psychologic use. The other phase — celebration and ceremony — is of great value for us to understand. Moreover, the measure of personality worth has, to a certain extent and in large segments of the population, become the ability to handle alcohol — in other words, to be able to drink large quantities. The whole attitude of society toward the use of alcohol and toward the alcoholic patient has become decidedly ambivalent. This total social pressure must be met by social means, social re-education and social legislation, as perhaps the most important parts of the prevention of alcoholism.

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MEDICAL PROGRESS

THE ADRENAL CORTEX IN HEALTH AND DISEASE

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PHYSIOLOGIC AND CLINICAL EFFECTS

THE adrenal cortex, essential for life, has a large factor of safety. Only when it is largely depleted do signs of Addison's disease develop. Two chief manifestations of its functions then appear: First, a lavish excretion of urinary sodium chloride and water occurs, with a resulting reduction of the sodium chloride and water content, as well as volume, of the blood plasma. There often appears a concomitant rise in plasma potassium. This effect on body electrolytes is the best known of the adrenocortical functions. Secondly, there is a tendency to hypoglycemia because of a close relation to carbohydrate metabolism.

But there are also obvious effects on the fatigue of muscles, on growth and sex and on resistance to various strains and stresses, such as infections or temperature changes. There is also a fall in the basal metabolic rate. The relation to pigment metabolism, with the striking discoloration that occurs in Addison's disease, is evident but not understood.

It is not too clear how the adrenal cortex accomplishes its control of plasma inorganic-salt levels, but the work of Harrison and Darrow[1] implies that the kidney is at least one of the primary factors. These workers found that the normal kidney functions of tubular reabsorption of sodium when the blood sodium is low, and the increased excretion of potassium when the blood potassium is elevated are lost in dogs with adrenal insufficiency. In the latter deficiency, the decrease in plasma sodium does not arrest sodium excretion, and even though the blood volume has diminished, the urine volume remains elevated and its sodium content remains high. But though the blood plasma potassium rises under these conditions, it is only sluggishly excreted by the adrenal-deficient kidney. If sodium chloride is given to an animal with such an insufficiency, it produces a diuresis that sweeps out the sodium and some retained potassium as well, but the capacity to store sodium and to excrete a high concentration of potassium is restored only by treatment with cortical extract. This work was confirmed by Anderson et al.[2-5] by means of radioactive salts; they found that animals could be kept practically normal if 1 per cent sodium chloride was added to their drinking water. They remained normal not only in their sodium and potassium levels but also in their ability to gain weight and to store glucose. It therefore appears that the inorganic disturbance produced by adrenal insufficiency bears some relation to the second function of the cortex — namely, carbohydrate metabolism.

The relation of the adrenal cortex to carbohydrate metabolism and its antagonism to insulin have been repeatedly investigated in the past by Britton and Silvette, Long and Lukens, and many others. There is still some disagreement about this relation, for Grollman[6] thinks that the adrenal gland "is not preëminently involved in the maintenance of normal carbohydrate metabolism." According to such investigators, the abnormalities observed represent only the poor condition of the adrenal-insufficient animal and not a function of the gland itself. On the contrary, other recent investigators again find a close fundamental relation between the adrenal glands and the carbohydrates. This viewpoint was primarily advanced by Britton and Silvette.[7, 8] Katzin and Long[9] described the effect of cortical extract as increasing the glycogen in the liver without affecting muscle glycogen. This observation has been confirmed by Sprague,[10] who showed that the phenomenon occurred in both fasting normal and depancreatized rats. The work has been strikingly summarized by Long, Katzin and Fry,[11] who appear

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to demonstrate clearly the fundamental importance of this adrenal function. The cortical hormone, corticosterone, apparently decreases the proportion of glucose oxidized and increases its deposition. In depancreatized rats, adrenalectomy decreases and corticosterone increases glycosuria above the previous levels. This hormone raises the blood sugar of hypophysectomized rats even to "supernormal levels."

Thorn and his co-workers[12] have recently reported that "the ability of adrenalectomized animals to convert three carbon atom intermediate substances of carbohydrate and protein metabolism to glucose or glycogen is markedly impaired." They also noted an increased utilization of glucose by the adrenalectomized animal. These factors — poor formation but rapid use of glucose — account for the rapid exhaustion of the glycogen stores in fasting animals.

With these effects on carbohydrate metabolism Long and his associates[11] have also demonstrated an effect on protein metabolism, inasmuch as the cortical hormone stimulates nitrogen excretion. They suggest that increased gluconeogenesis from protein destruction may explain the elevated carbohydrate levels and the increased nitrogen and potassium excretions that result from the use of cortical extract in animals.

The loss of adrenal cortex thus appears to diminish the production of carbohydrate from protein breakdown, whereas the use of Kendall's Compound E or corticosterone produces a return to normal conditions. These were also the findings of Wells.[13]

An interesting clinical confirmation of this work is found in a diabetic patient who developed Addison's disease. Bloomfield[14] reported that as Addison's disease developed the need for insulin fell markedly, and the use of desoxycorticosterone produced no obvious effect on carbohydrate metabolism; cortical extract was followed by a return of higher blood-sugar levels.

The most dramatic recent evidence for the importance of the adrenal gland to carbohydrate metabolism is the observation by Cope and his co-workers[15] that in adrenocortical insufficiency in the dog there is a very marked rise in serum-amylase activity. They find that this change in activity is the most sensitive objective measurement in the blood of cortically insufficient dogs, for it becomes significantly elevated before any change in electrolyte substances can be observed. They also note that both adrenocortical extract and desoxycorticosterone acetate depress this elevated level. This is a very interesting early effect on circulatory enzymes that have to do with carbohydrate catabolism, and it is surprising that the effect should be so prompt. The observation should be investigated in clinical cases of Addison's disease.

Many of these experimental abnormalities of carbohydrate metabolism can also be found in clinical cases with Addison's disease, as Thorn and his co-workers[16] have well summarized. They discovered that a large proportion of patients showed striking hypoglycemia following glucose-tolerance tests or after various stresses like fever or fasting. There was a decreased threshold at which hypoglycemic symptoms appeared, and also little tendency to an elevated blood sugar with either the ingestion of glucose or the injection of adrenalin. These workers confirmed the specificity of certain adrenal compounds to correct these abnormalities, of which adrenocortical extract was most effective, though Compound E of Kendall and corticosterone were also satisfactory. An interesting finding was the persistence of carbohydrate abnormalities in patients by means of desoxycorticosterone acetate therapy, in spite of a return to normal in electrolyte balance, plasma volume and blood pressure. This is confirmed by Wilder,[17] who found a persistent low blood-sugar level and a continued inability to withstand short periods of fasting.

The relation of the adrenal cortex to muscular fatigue has been studied in animals by Secker,[18] who found that adrenalectomy was followed promptly by well-marked fatigue, which was relieved within a few minutes by the injection of adrenocortical extract. As Thomson and Collip[19] point out, the surprising thing is the speed with which these changes occur.

McGavack[20] was intrigued by the small size of the heart in Addison's disease, a finding that has previously been noted at autopsy. He studied the reduction in heart volume and found this to be 32 per cent in 5 cases of Addison's crisis, and 16 per cent in 3 cases without crises. It was only during crises that he observed a significant reduction in blood volume, which plays an accessory role in further reducing the size of the heart. Two patients who were studied after adequate treatment demonstrated a return to a normal heart volume.

The relation of the adrenal cortex to sex development is clearly seen in the tumors of man. Adrenocortical hyperplasia or neoplasia produces precocious puberty in childhood, particularly toward the masculine sex, and causes a similar appearance of sex reversal in adult women. As described by Aub and Nathanson[21] these changes are analogous to the effects of testosterones inasmuch as they affect the secondary sex character-

istics, such as the penis and clitoris, but do not influence the primary gonads, such as the testes. Gross[22] has also described these patients. It is not surprising that such changes might occur because of the production of androgens in the adrenal gland. In a recent publication, Wolfe, Fieser and Friedgood[23] describe the isolation of several androgens from the urine of a girl with a malignant adrenal tumor. They isolated five ketosteroids in which the androgen-breakdown product, dehydroisoandrosterone, represented about a hundredfold increase above normal. Others[24] have likewise found excessive amounts of male hormones in the urine of adrenal virilism cases. The independent diagnostic value of determinations of urinary 17-ketosteroid excretion is limited to such cases.[25] Furthermore, several of the female sex hormones have been isolated from adrenal glands (such as estrone and progesterone) by Beall and Reichstein.[26–28] Indeed, Callow, Callow and Emmens[25] conclude that 17-ketosteroids and androgens may be derived from both the gonads and the adrenal cortex, and suggest the hypothesis that absence of the gonads leads to compensatory activity of the adrenal cortex in their production.

A good summary of the clinical literature in regard to the sex factors of the adrenal gland has been made recently by Looney[29] and therefore does not need to be repeated. He concludes that "the weight of evidence at the present time indicates that the life-sustaining principle does not of itself affect the gonads, that certain cortical extracts have a marked effect on the sexual development of experimental animals, and that, therefore, there are present in the adrenal gland substances distinct from cortin which have gonadic activity."

There is one interesting and neglected fact about these cases of overactive adrenal glands, particularly in children. The effect may be a reversal of sex characteristics, as in girls and occasionally in men.[30] But in boys the effect is simply an early maturation of all secondary sex characteristics — the metamorphosis occurs quickly, but once it has been accomplished, no further progressive changes in the stimulated organs occur. In other words, the overactive adrenal gland is simply a maturing factor.

It must also be remembered that Cushing's syndrome may well be due to hyperfunction of the adrenal cortex. This large subject cannot be adequately handled here, but it has recently been well reviewed by Haymaker and Anderson.[31]

Biochemistry

Chemical knowledge of the adrenal cortex has developed rapidly since the discovery, and synthesis by Reichstein,[32] of one of the active principles, corticosterone. Koch[33] has recently summarized the literature.

There are at least four well-known compounds (corticosterone, 11-dehydrocorticosterone, desoxycorticosterone and C, 17-hydroxydehydrocorticosterone); the last is Compound F of Wintersteiner and Pfiffner or Compound E of Kendall. An ester of desoxycorticosterone is the common form of synthetic compound now on the market. The cortical extract obtained from the adrenal glands probably contains a mixture of many such compounds.

Mason[34] states that more than twenty closely related crystalline substances have been isolated from the gland, and still "the major portion of the total activity of the crude extract remains in the mother liquors from which the crystalline fractions have been removed." This impure residue is fifteen times as potent as desoxycorticosterone and one hundred times that of corticosterone. The isolated substances are all four-ringed compounds of the group called steroids (like sterol), and are closely related chemically to all the sex hormones. In fact, it is highly likely that estrogens, androgens and progesterone are synthesized in the adrenal glands as well as in the sex glands.

It is very interesting that compounds so closely related chemically should have such divergent effects. In some compounds a mixture of effects may be seen. Thus Mason[34] states that desoxycorticosterone acetate has progestational activity. The marked changes in growth and function and in body configuration produced by the sex hormones, compared with the metabolic effects of the very closely related adrenal steroids, give as dramatic a picture of the effects of very small chemical changes as can be found. The only difference between desoxycorticosterone and testosterone is that the former has a short ester chain replacing an oxygen atom, — yet it influences salt metabolism to a degree that represents health or death and has no androgenic effect, — whereas testosterone shortens the duration of the life of an adrenalectomized animal, but produces the changes in the body commonly ascribed to maleness. No chapter in chemistry is more interesting than this recent development.

The various isolated compounds, although closely related, have different therapeutic effects on the adrenal-insufficient organism. Thus some are not active, whereas desoxycorticosterone, which has few oxygen atoms, is the most effective compound in combating the sodium chloride loss produced by deficiency. It has, however, but feeble effect in correcting the carbohydrate abnormality of

metabolism.[16] On the contrary, the closely related Compound E of Kendall apparently has an effect on the carbohydrate metabolism and on the fatigue phenomenon of muscle and a very weak salt-correcting quality, and corticosterone has some effect on both elements of metabolism.[11]

This great difference in effect may well account for the better responses sometimes produced by an extract of the adrenal gland rather than the therapeutic effects produced by single synthetic compounds. The impure extract isolated from the gland tissue represents a mixture of the compounds that are sometimes needed in therapy. This problem of the specificity of effects is well summarized by Kendall,[35] who has done much work in this field.

The administration of adrenal extracts may produce atrophy of the adrenal glands. Wells and Kendall[36] report that this is produced by corticosterone and Compound E, but not by desoxycorticosterone acetate. This is fortunate, for the compound most widely used in therapy is therefore least deleterious to the remaining adrenal tissue. It is interesting that Clausen[37] has recently reported that a similar atrophy may follow injections of progesterone.

Synthetic hormones do not produce such a refractory state with repeated injections as may develop from extracts of the adrenal glands. Hartman's[38] evidence indicates that refractoriness to the sodium factor in cortical extracts is due to an immunity that develops in adrenalectomized animals as easily as in normal animals. The pseudoglobulin fraction of the blood serum is responsible for the refractory state, which does not develop from extracts made from the same species as the subject. Because of this phenomenon Hartman advises against intravenous use of cortical extracts.

Treatment of Adrenal Deficiencies

The treatment of Addison's disease has been well summarized by Loeb and his associates[39] and also by Thorn.[40, 41] The specific treatment consists in using the most effective of the synthetic adrenocortical hormones, desoxycorticosterone acetate. This is not a perfect form of therapy, for it controls the salt loss but does not influence the abnormal carbohydrate metabolism of the disease. It would be better in the present state of knowledge to use the corticosteroids derived from the adrenal glands themselves, for this would give a more balanced mixture of the group of elaborated chemicals. But the use of such glandular extracts lacks uniformity of effect, and is very expensive. Its lack of dependability and the immunity that may follow its use are, of course, serious matters in a disease in which crises may be of grave prognosis.

Desoxycorticosterone acetate can be used in three ways: First, by mouth, when very large quantities of this expensive drug are required. This method is also not desirable when gastrointestinal upsets are present, for absorption rates may be depressed at just the time when the therapy is most needed. The successful therapeutic use of desoxycorticosterone acetate, by applying it under the tongue, has been described by Anderson, Haymaker and Henderson[42]; when the drug was dissolved in propylene glycol, the absorption appeared adequate and as effective as when it was given in oil intramuscularly. The usual method of administration is the intramuscular use in oil. This is usually a very satisfactory technic requiring at least several injections a week but with a fairly steady absorption rate. Finally, insertion as a solid pellet subcutaneously, an ingenious technic developed by Thorn,[40] has several advantages inasmuch as pellets have to be inserted only every few months, the absorption rate appears constant, and the amount of compound needed is relatively low. Once the diagnosis is clear and the constant need for the drug established, this appears the treatment of choice.

It is clear that desoxycorticosterone acetate should be first given intramuscularly in oil to establish whether it produces beneficial effects and how much is needed. Thorn recommends giving 6 to 8 gm. of added sodium chloride a day by mouth, and daily injections of 2 to 5 mg. of the drug. The patient ought to gain weight at once, for there should be a storage of sodium, chloride and water in the extracellular fluids. But a gain of more than a pound a day during the first week or a half pound subsequently means that too much of the hormone or too much salt is being given.

Wilder[17] recently discussed the treatment of Addison's disease in a large number of patients at the Mayo Clinic. A low-potassium diet — a previous scientific contribution of the clinic[43] — appeared to improve the clinical condition of the patients. The introduction of desoxycorticosterone acetate,[44] however, further improved the therapeutic results, although investigation soon revealed hypertensive blood pressures, increased venous pressure, peripheral edema and deaths from acute heart failure. Restricting the amount of salt added to the diet and discontinuing the reduction of potassium have appeared to remedy this problem in therapy. It is, of course, clear that an excess of desoxycorticosterone must not be given, for it may produce such an increased blood volume as to elevate the venous

pressure considerably. This may account for the cardiac failures. It is possible that the low-potassium diets accentuate this.[45]

McGavack[46] stresses further the serious cardiac damage in Addison's disease that may follow an excessive intake of salt or adrenocortical hormone, as well as a marked reduction of potassium intake. Overtreatment, which may result in cardiac-muscle weakness, anasarca and hypertension, can easily be avoided now that it is recognized. McGavack also suggests that an ample intake of vitamin B may prevent the appearance of cardiac failure.

The treatment of the crises not infrequently seen in Addison's disease requires particular care. Not only is the synthetic drug, desoxycorticosterone acetate, badly needed in doses of about 25 to 35 mg., but the use of the aqueous gland extract is also desirable. But to these must be added warmth and careful intravenous therapy with saline and glucose solutions. A normal blood-sugar level must be maintained, as well as an elevated blood-sodium level. This phase of treatment is well described in the article by Thorn and Firor.[40]

Once the crisis is over and daily maintenance doses are established, the problem of pellet implantation should be considered. Thorn recommends "one pellet of from 100 to 150 mg. being used for each 0.4 to 0.5 mg. of the material necessary for maintenance."

Other Uses for Cortical Hormones

Lindsay and his co-workers[47] urged the use of desoxycorticosterone as treatment for the Waterhouse-Friderichsen syndrome, the bilateral adrenal apoplexy of childhood. When such a diagnosis can be made, this therapy certainly deserves a thorough trial.

Perla and Marmorston[48] suggest that cortical hormone, with adequate salt and water in the diet, is of value in "maintaining patients with severe infections," such as pneumonia.

The analogy between adrenal insufficiency and traumatic shock was first suggested by Swingle et al.[49] The idea was not generally accepted, but recently has received more attention; several investigators have tried with some success the use of cortical extract, or desoxycorticosterone, in preventing or combating traumatic shock.[50–56] This is an interesting idea, which might be of particular importance in these days of war. There is a possibility that the hormone might produce salt storage in the body, and a little evidence that this would stay in the circulation, from Ragan, Ferrebee and Fish.[50] Selye, and Dosne et al.[51, 52] believe that cortical extract is better than desoxycorticosterone acetate, and Swingle and his associates[55, 56] imply that the action suggests a direct effect on the tonus of the peripheral circulation rather than on the electrolytes or carbohydrate metabolism. Most of these studies deal with the prevention of shock rather than its cure, and further investigations are needed before this work can be considered worthy of use in clinical cases.

* * *

The last few years, therefore, have seen a transformation in the conception of the adrenal gland. Its functions are fairly well understood, its active secretions not only isolated but capable of synthesis in the laboratory, and its treatment improved to a point where many patients can return from invalidism to prolonged active life.

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CASE RECORDS OF THE MASSACHUSETTS GENERAL HOSPITAL

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICOPATHOLOGICAL EXERCISES

FOUNDED BY RICHARD C. CABOT

TRACY B. MALLORY, M.D., *Editor*

CASE 27201

PRESENTATION OF CASE

A sixty-two-year-old man entered the hospital for study.

Because of the patient's condition the history was obtained from his physician's letter and the nurse's report. It appeared that the patient had been well until two months before admission, when he complained of "fuzziness in the head" and inability to concentrate. One month before entry, a short period of aphasia developed, but neurologic examination was otherwise negative and the blood pressure was 144 systolic, 96 diastolic. He remained in bed for three weeks, but failed to regain his strength, fell in attempting to walk, and became increasingly quarrelsome, irritable and irrational, with incontinence and episodes of stupor. Neurologic examination was still negative apart from exaggerated knee jerks, and a lumbar puncture was entirely normal except for an increased globulin content; blood studies and serologic tests were normal. Three weeks before admission, transient aphasia again appeared, and the patient was unable to stand without support. The periods of stupor became more frequent and prolonged, his condition varying between smiles of apparent recognition, and irrationality and semiconsciousness. At times the patient refused nourishment, becoming noisy and uncontrollable; again, he would lie groaning and unresponsive. The temperature swung between 101 and 105°F., he developed a cough without sputum, and on one occasion vomited "coffee grounds with mucus." During the journey to the hospital the patient was very drowsy and at one point developed a marked, transitory respiratory difficulty with cyanosis.

The patient had suffered from typhoid fever fifteen years before admission, and two years before admission his physician had recorded a blood pressure of 184 systolic, 122 diastolic, but at that time he appeared perfectly well. For ten years he had had occasional severe headaches, but had not complained of headache during the present illness. His family was noted for longevity, both the mother and father having died between ninety-five and a hundred of hypertension with cerebral manifestations.

On examination the patient was semicomatose, restless, moaned occasionally and withdrew his extremities from painful stimuli. His emotions ranged from wild laughter to tears. The pupils were of average size, equal and reacted to light. The retinal vessels and optic disks appeared normal. There was no facial weakness; the neck was rigid (a sign that the nurse had not noticed until their arrival at the hospital). Flexor and extensor tone was increased in the right arm, and the right knee and ankle jerks were more active than those on the left. Sustained ankle clonus was present on the right, with four to five clonic jerks on the left. The plantar reflex on the right was equivocal; on the left it was normal.

In general, the patient was dehydrated, with loose skin, dry mouth and coated tongue; there was a thick ropy posterior pharyngeal discharge. The heart, lungs and abdomen were essentially normal; the blood pressure was 135 systolic, 95 diastolic.

The temperature was 100.5°F., the pulse 100, and the respirations 25.

The urine was normal. The blood showed a red-cell count of 4,830,000 with a hemoglobin of 14.5 gm. (photoelectric-cell technic), and a white-cell count of 13,100 with 92 per cent polymorphonuclears. The nonprotein nitrogen of the blood serum was 28 mg., the sugar 118 mg. per 100 cc.; the blood Hinton reaction was negative.

A lumbar puncture gave an initial pressure of 160 mm. of spinal fluid. The fluid contained 2 cells per cubic millimeter, and the total protein was 60 mg., the sugar 127 mg. and the chlorides 727 mg. per 100 cc. A gold-sol curve was 0001100000, the Wassermann reaction negative.

X-ray films of the skull showed an area of calcification measuring 4 by 3 by 2 cm. in the left posterior parietal region close to the mid-line. This shadow was made up of small circular shadows having the appearance of calcification in blood vessels. The pineal body was not displaced in the lateral views and was not visible in the anteroposterior views. The sella turcica was normal in size and shape, and the bones of the vault appeared normal.

An x-ray examination of the chest was negative.

An electroencephalogram showed abnormal, 3-per-second waves, chiefly on the right side, with most of the slow-wave activity in the right posteroparietal region.

On the fifth hospital day, an operation was performed.

DIFFERENTIAL DIAGNOSIS

DR. AUGUSTUS S. ROSE: We can be certain that we are dealing with a patient whose symptoms came from the brain, and that the data are suffi-

cient to permit us to say that the lesion was on the left side. Therefore our differential diagnosis must consider those unilateral lesions which might produce this history and these physical findings. In my differential diagnosis I shall include some infectious process of the brain, dural sinuses or subdural spaces, cerebrovascular disease, subdural hematoma and tumor.

While Dr. Holmes looks over the x-ray films we can briefly review the history. Stripped of the nonessential data, we are dealing with a sixty-two-year-old man with a history of headaches for ten years, who had a period of one month of vague cerebral symptoms followed by a month of progressive signs and symptoms. These were intermittent aphasia, variable consciousness, irrationality, stupor and fever. On physical examination there were coma, dehydration, stiff neck, normal pupils and optic disks, and increased reflexes on the right side, with some increased tone. A slight fever, a moderate increase in the white-cell count and negative serologic tests were also recorded. Lumbar puncture showed a normal pressure and only slight elevation in protein. The skull x-ray film gives an important lead.

Dr. George W. Holmes: The lesion described can be quite distinctly seen by those of us who are close. It does have very much the appearance of calcification in the walls of blood vessels. It is a little far back and a little high, I think, for the choroid plexus, although it does not look unlike that.

Dr. Rose: Should you say it is in the substance of the brain or on its surface?

Dr. Holmes: I should think it is in the substance of the brain, or in a dilated ventricle.

Dr. Rose: It is not consistent with calcification in a blood clot such as an old hematoma?

Dr. Holmes: No; furthermore, I think that is very rare.

Dr. Rose: There is no evidence of increased pressure?

Dr. Holmes: No.

Dr. Rose: I do not dare ask you whether you think it is a tumor.

Dr. Holmes: It would not do you much good because I could not answer it.

Dr. Rose: First, of the conditions mentioned, an infectious process, such as brain abscess, meningitis, thrombophlebitis of one of the dural sinuses or subdural abscess, can be most easily ruled out. Indeed, the question of infection is raised only because of fever, increased white-cell count and stiff neck. There is no history of an antecedent infection that might have served as a source of an intracranial infection. The duration and the character of the symptoms, the normal cerebrospinal-fluid pressure and the absence of cells in the spinal fluid are all conclusively against the diagnosis of an infection. The fever and elevated white-cell count may be explained by dehydration, although some other factor is necessary to explain the temperature of 105°F. The stiff neck is also a troublesome matter. In the absence of infection, rigidity of the neck is a sign not infrequently seen in posterior-fossa tumor, but when present is usually associated with increased pressure, and is explained by irritation of the tentorium. In this case, there is neither increased pressure nor evidence for a subtentorial tumor. Possibly it was produced by irritation from above.

Cerebrovascular disease is a "wastebasket" into which this case could easily be placed if we did not carefully consider the nature of the symptoms. By cerebrovascular disease, I imply arteriosclerosis and thrombosis, which are here suggested by the patient's age, blood pressure, intermittent symptoms and relatively normal cerebrospinal fluid. But variable coma, a relatively rapid course and the absence of paralysis or even weakness, although aphasia was present, are strongly opposed to cerebrovascular thrombosis as the primary disease. Furthermore, the x-ray film gives evidence of a lesion, which we must assume is associated with the primary disease, and which must have been present long before the onset of symptoms. We may therefore safely rule out cerebrovascular disease.

Except for the intracerebral calcification and lack of a history of a head injury, we have in this case an almost perfect picture for subdural hematoma; that is, an elderly man with frequent headaches who develops confusion and irrationality followed by stupor and coma. The physical examination shows fewer signs than would be expected from the severe clinical reaction, and although the symptoms suggest increased intracranial pressure, it is not found. These are features commonly associated with chronic subdural hematoma. However, in a case of a hematoma producing symptoms of this severity there should be evidence of pressure, and one might also expect a dilated pupil on one side from compression of the third nerve. But again the x-ray evidence points to a deep intracerebral lesion and is the deciding factor in excluding conditions other than tumor as the primary cause of symptoms.

Having arrived at tumor as the best diagnosis we are left with the question of the type of tumor. This is a difficult question, for it is necessary to find a tumor that grows slowly and yet causes severe symptoms without producing increased pressure. Only the slowly growing tumors contain calcium. The slowly growing tumor as a

rule does not cause coma without pressure. The calcification, as described, is made up of circular shadows. This raises the question of hemangioma. However, a hemangioma would have been present for many years and these symptoms could be produced only by bleeding and we have no evidence for hemorrhage. The location and type of symptoms and the absence of pressure, as well as the x-ray appearance, are against meningioma. Gliomas that produce calcification are the oligodendrocytoma and the astrocytoma. Both may grow slowly. The former is usually very heavily calcified and first causes local symptoms, then pressure. An astrocytoma may contain irregularly placed calcium deposits and infiltrate widely. Therefore, although the x-ray appearance is not what I should expect, I make astrocytoma my first choice.

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Dr. William B. Breed: I am interested in the electroencephalogram, about which I know little or nothing. But according to this report the abnormality is placed on the right side. Is this important? Should we pay any attention to it? Everything else points to the left side.

Dr. Rose: That is why I ignored it.

Dr. Breed: Should we continue to ignore the electroencephalogram?

Dr. Rose: In general, I do not believe we have yet acquired sufficient knowledge to interpret the electroencephalogram accurately and adequately.

Dr. W. Jason Mixter: A large posterior left-sided occipitoparietal bone flap was turned down. The dura was reflected upward. The brain appeared somewhat atrophied. There were lakes of spinal fluid around the arachnoid. The vessels were engorged, and many of the arteries, which were large and tortuous, were markedly sclerotic. No mass could be felt anywhere. A ventricular needle was inserted through the cortex pointing toward the location of the mass as shown by x-ray study. The mass was encountered, and then the needle slipped forward into the ventricle. Brownish-yellow fluid was withdrawn at first, and later clear ventricular fluid. It was evident that the ventricle was considerably dilated. An opening was made in the anterior part of the occipital lobe over the site of the exposed mass, and dissection of brain tissue by diathermy was carried down until the ventricle was entered, the funnel being about 3 cm. across on the surface. The ventricle itself seemed normal except for dilatation, and the choroid plexus seemed normal. In the medial portion of the roof of the ventricle could be felt a very hard, irregular mass running forward for about 5 cm., apparently about 2 cm. in width. This was exposed by incising the white matter about the ventricle. There was very free bleeding about the tumor from moderate-sized arteries and veins. The tumor seemed to be composed of grayish-purple tissue in which large calcified vessels were running. The posterior third was dissected out with considerable difficulty. Bleeding points were controlled with clips and diathermy. After consultation with Dr. Kubik, it was believed that the mass was irremovable in its entirety. The opening into the ventricle was left wide open and the dura closed with interrupted silk sutures. The postoperative diagnosis was probable hemangioma.

Dr. Charles S. Kubik: That was the preoperative diagnosis too?

Dr. Mixter: Yes, based entirely on the x-ray findings.

Clinical Diagnosis

Left parieto-occipital tumor, probably a hemangioma.

Dr. Rose's Diagnosis

Astrocytoma, left parieto-occipital region.

Anatomical Diagnoses

Hemangioma of the left parietal lobe.
Subdural hematoma, postoperative.
Bronchopneumonia.

Pathological Discussion

Dr. Kubik: The patient died of bronchopneumonia on about the twelfth postoperative day. A hemangioma in the left upper posterior parietal region and also a left subdural hematoma were found at autopsy. I believe the subdural hematoma was postoperative. The membrane was very friable and would, I think, be consistent with a twelve-day affair.

Dr. Mixter: There was no evidence of it at the time of operation. We had a fair exposure of the hemisphere.

Dr. Kubik: The tumor, measuring from 2.5 to 4 cm. in diameter, was on the medial surface in the posteroparietal region of the left hemisphere above and to the inner side of the lateral ventricle. On the surface were innumerable blood vessels like a mass of small fishworms, and leading into the mass were the anterior cerebral and posterior cerebral arteries, both of which were greatly dilated on the side of the tumor while on the other side they were normal. Between the tumor and the superior longitudinal sinus there was a plexus of small vessels that emptied, through a large sinus, into the superior longitudinal sinus, and also what appeared to be arterial branches connecting directly with the superior longitudinal

sinus. These lesions are probably not true neoplasms but developmental anomalies, and may perhaps be first cousins to congenital arteriovenous anastomoses, of which we had an example several years ago. In that case, there were numerous communications between arteries and veins, with tortuosities that never amounted to masses like the one in this case but approached that condition in some places.

DR. ROSE: Was there any evidence of recent hemorrhage?

DR. KUBIK: I did not find any. That is a curious thing about the case. Why did the patient have symptoms if there had been no recent bleeding? The clinical picture was more consistent with the subdural hematoma.

DR. MIXTER: Is it not true that there was a good deal of clotted blood inside these vessels, probably from thrombosis within the tumor?

DR. KUBIK: Yes. It is rather interesting, too, that although this patient had had severe headaches for ten years, which I suppose were related to the hemangioma, he had no headache preceding entry to the hospital.

DR. ROSE: At least he did not talk about it, or could not.

DR. KUBIK: That was the history given by his nurse and by his family physician.

CASE 27202

PRESENTATION OF CASE

First Admission. A fifty-year-old divorced shoe laster was admitted to the hospital complaining of pains in his stomach of two years' duration.

The patient said that he always had been strong and healthy before his present illness. Four or five years before admission, he noted that the ingestion of cold food such as ice cream or ice water immediately precipitated vomiting, the vomitus consisting of recently eaten food and occasionally of coffee-grounds material. There had never been any bright blood. Only cold food had this effect. Gradually these vomiting episodes were preceded by a griping, squeezing pain, which began fairly low in the abdomen and radiated upward to "press on my heart." The patient noted that the pains were worse when associated with hunger, and that they were markedly relieved by the ingestion of warm food. At times these stomach pains disappeared for two or three days, but they then recurred. He was frequently awakened from a sound sleep by pains that caused him to double up; these pains, unassociated with the ingestion of cold food, were described as being griping in character. After a few minutes, the pain disappeared. The patient also noted gaseous and acid eructations and constipation, but no abnormal stools. He had never had jaundice or hemorrhoids. Four years before admission he weighed 185 pounds, three years later, 155 to 160 pounds, and at the time of admission, 147 pounds. Because of the pain, which had become constant, and because of increasing weakness, he finally had to give up work two months before admission.

The past and family histories were noncontributory except for the occurrence of pneumonia ten years before entry, with complete recovery, and an episode thirty years previously, while the patient was in the Russian army, characterized by chills and fever of two months' duration, which was apparently cured by the frequent ingestion of quinine. He had suffered the usual childhood diseases.

Physical examination revealed a well-developed but somewhat emaciated and markedly anemic man lying quietly in bed in no apparent distress. Examination of the heart was negative. The blood pressure was 130 systolic, 75 diastolic. The lungs were clear. The abdomen was slightly tender on pressure in the right upper quadrant and right mid-epigastrium. No masses or spasm was noted. Rectal examination revealed a firm, slightly enlarged prostate.

Examination of the urine was negative. Examination of the blood showed a red-cell count of 4,000,000 with 60 per cent hemoglobin.

X-ray examination revealed a mottled, irregular filling defect involving the mid-portion of the stomach and extending up toward the cardia and down toward the pyloric end. The walls of the stomach in this region were rigid, and peristalsis was absent. There was no retention of the six-hour meal. The first portion of the duodenum was normal in contour and in the usual position. The six-hour meal had reached the transverse colon.

On the fifth day, a partial gastrectomy was performed. The pathologic report was adenomatous polyp. The patient developed an infected wound, which had to be drained. Six days after operation, he began to vomit and visible peristalsis appeared. Gastric lavage was done twice, and on both occasions there was a large amount of dirty material in the stomach. Because of the apparent intestinal obstruction, he was again operated on and lysis of adhesions was performed. He improved steadily and was discharged on the twenty-first hospital day.

Second Admission (thirteen years later). The patient had been well since his discharge and was followed in the gastrointestinal and tumor clinics.

Four months before the present admission, he began to have sharp pains located in the left lower quadrant and radiating up to the sternum and lateral borders of the ribs and around to the back. These pains occurred while he was ingesting food, but one month before admission they became constant and localized in the epigastric region. His appetite remained good, but he noted increasing discomfort at the time of eating. He lost 5 or 6 pounds in four months. He had noted some increase in weakness. For the past two or three years before the second admission, the patient noted nocturia four or five times and increasing difficulty in starting the urinary stream. He had no other complaints.

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Physical examination showed a thin patient, with a loose inelastic skin. His teeth were poor. There were several firm, movable, nontender shotty lymph nodes in the right axilla. The peripheral vessels were tortuous and sclerotic. Examination of the abdomen revealed a right upper pararectal scar and a mid-line upper abdominal scar, in the center of which was a small incisional hernia. There was tenderness without spasm in the left upper abdomen. There was very slight pitting edema of the right ankle.

The urine examination was negative. Examination of the blood showed a red-cell count of 3,400,000 with 55 per cent hemoglobin. The stools were dark brown and formed, and showed a ++ guaiac reaction. The serum nonprotein nitrogen was 23 mg. per 100 cc., the serum chloride 99.8 milliequiv. and the carbon dioxide combining power 29.8 milliequiv. per liter, and the serum protein 5.42 gm. per 100 cc. X-ray examination of the stomach revealed a large, fungating, ulcerated tumor mass, which occupied the greater portion of the stomach, leaving the fundus and immediate prepyloric region free. The tumor was slightly movable and extended high on the posterior wall, where it probably reached slightly above the cardia. The pylorus opened readily.

On the tenth day an operation was performed.

Differential Diagnosis

Dr. F. Dennette Adams: The circumstances of the first admission require little comment. The patient was admitted with a story highly suggestive of some upper gastrointestinal-tract disturbance; the roentgenologist demonstrated a gastric lesion, and operation was quite properly performed. We are not told whether the clinicians or the roentgenologist made the preoperative diagnosis. I should not have made it on the basis of the history and physical examination alone, although having been fooled by polyp before, I probably should have mentioned it in differential diagnosis. I know of no special significance that can be attached to the vomiting immediately after ingestion of cold foods, unless it indicates an unusually irritable stomach. The periodic griping pain, appearing when the stomach was empty and relieved by vomiting or by food, suggests an obstructing ulcer. The night pain also suggests ulcer, although characteristically it is described as boring or burning rather than griping. The coffee-grounds vomitus and the moderate anemia indicate bleeding; the constipation and loss of weight suggest carcinoma — the latter, however, may have been due to reduction of intake based on fear of eating. The duration of the illness is long for carcinoma. Therefore, without x-ray examination to fall back on, my preoperative diagnosis would have been ulcer with obstruction.

The elevation of the nonprotein nitrogen is puzzling; in the absence of any indication of uremia or other sign of kidney impairment, I am inclined to disregard it.

Dr. Tracy B. Mallory: All the chemical tests were done postoperatively. The patient developed intestinal obstruction, and that, of course, is what pushed up the nonprotein nitrogen. I shall give you more information about that polyp. The specimen sent to the laboratory showed a freely movable polypoid growth 3 by 4 by 10 cm. That is a large polyp. Microscopic examination showed some degree of atypicality, with papillary growth into the tubules, some hyperchromatic cells, occasional mitotic figures, but no evidence of invasion. The surgical pathologist remarked that the tumor was at the borderline of malignancy, but he was inclined to consider it benign.

A Physician: Do polyps cause that much pain?

Dr. Adams: I suppose one would have to assume that the polyp ever so often worked itself into the pylorus and that the severe griping pain resulted from the effort of the stomach to push it along.

Dr. Mallory: Long slender polyps can slip into the pylorus. This was a broad sessile one, which one would not expect to wander around much.

Dr. Adams: Then I suppose we must say that polyp per se can cause this kind of pain.

In the second episode, lower abdominal pain again confuses the picture. It might have been due to partial obstruction, caused by adhesions from the previous operations. But since griping did not continue and everything else points to the upper abdomen, we had best look there for the trouble. Events had moved more rapidly this time. Prior to the first admission, the patient was sick for five years; on the second entry he had

been sick for only four months. The epigastric pain was constant and not relieved by food; this is not the picture of ulcer. There is nothing to suggest pyloric obstruction. The genitourinary symptoms can be dismissed as incidental; the patient was sixty-three — he had a right to some enlargement of the prostate gland. Physical examination was negative. The blood count and stool examination indicated bleeding. Even without the aid of the roentgenologist, one would be safe in attributing this illness to a gastric lesion. Was it benign or malignant? Did the patient have another benign polyp, an ulcer or a carcinoma? We know that bleeding is common in all three. The character of the pain tends to exclude ulcer. We know that polyps are likely to become malignant. We know that mitotic figures were seen in the tissue removed thirteen years previously, but invasion was not demonstrated. We know that the patient had gone downhill. So that without x-ray I should hazard a diagnosis of carcinoma of the stomach. When we read the report of the roentgenologist, I suppose we must consider the possibility that the ulcerating mass was a polyp. I should still be inclined to make a diagnosis of carcinoma, since ulceration of a benign polyp is not common — that is, ulceration which can be visualized.

A Physician: What do you expect from surgery in a case like this?

Dr. Adams: If the patient had a polyp, it might be removed, or if a carcinoma, a total gastrectomy might prolong life for a while.

Dr. Mallory: A third point always to be considered in such a case is the relief of distressing symptoms for the duration of life. For instance, with carcinoma of the rectum it is often justifiable to resect even in the face of demonstrable metastases in the liver because there may be no other way of controlling symptoms; one thus gives the patient six months to two and a half years of reasonably comfortable living instead of constant torture. One does not have to feel that a lesion is completely curable to justify operation.

Clinical Diagnosis

Carcinoma of the stomach.

Dr. Adams's Diagnosis

Carcinoma of the stomach.

Anatomical Diagnosis

Carcinoma of the stomach, with metastases to the regional lymph nodes.

Pathological Discussion

Dr. Mallory: The clinical diagnosis in the wards was carcinoma of the stomach. The patient was explored by Dr. Edward D. Churchill, who found a carcinoma of the mid-portion of the stomach, practically encircling it, with no metastases in the liver but with a few lymph nodes that seemed obviously metastatic along the course of one of the gastric arteries a little farther out than it was possible to carry the resection. On the other hand, the intrinsic stomach tumor was readily resectable, and a subtotal gastrectomy was done. It is presumed that some involved lymph nodes were left behind. The operation was attended with considerable difficulty in its last stages, because the patient had had two previous operations in the upper abdomen and it was very difficult to close the abdominal wound. He left the hospital in about three weeks' time with significant relief from symptoms. He has been in for three follow-up visits and is feeling fine. He is not cured but much more comfortable than he was before operation.

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EXHIBITS AT THE ANNUAL MEETING

The scientific exhibits scheduled for the annual meeting of the Massachusetts Medical Society give promise of the usual high quality and interest. Most of the specialties will be represented, a fact of considerable importance in view of curtailment of the meetings of the various sections. Two exhibits deserve special emphasis. The first is that sponsored by the Regional Committee on Fractures and Trauma of the American College of Surgeons, the Boston Metropolitan Chapter of the American Red Cross and the National Ski Patrol, since the first-aid treatment of fractures is of timely interest because of the increase in highway and skiing accidents and because of the defense program. The second is an exhibit by six Boston hospitals covering anesthesiology, which should be particularly instructive owing to the significant advances that have been made in recent years. No doubt many of the other exhibits will be of as much or more interest; they all deserve particular attention.

The technical exhibits, arranged by medical-book publishers, equipment and pharmaceutical houses and other medical-service organizations constitute as large a display as has ever been shown at an annual meeting. The physician of today is very dependent on the products or services distributed by all such companies. Books, equipment, drugs and various medical services will be displayed or explained by competent men from the leading firms throughout the country. Members are urged to visit the many booths, both for the information they may acquire, and for the effect it will have on the exhibiting companies. The success of the meeting, from the exhibitor's point of view, is judged on the basis of attendance at his particular space, and a friendly visit to each booth means future assets for the Society.

THE PROBLEM OF ALCOHOLISM

Man has used various drugs throughout the ages to blunt his senses, increasing the illusion of pleasure by decreasing the awareness of distress. . . . It seems to me that we are closer to the middle of the road; that in most groups one may be abstinent or temperate without being subjected to embarrassing comment. The change in feeling, with resulting regulatory laws, has been in the main helpful, but it still remains a serious problem. . . . Alcohol is a major cause of insanity, and poisoning from it is the cause of more deaths than many dreaded infectious diseases. . . . Intemperate drinkers may be classed as stable or unstable, and the drinking of the former may be regarded as evidence of disease of the social order, while that of the latter demonstrates disease of the individual. The unstable drinker is particularly susceptible to drinking because he gets so much more pleasure out of alcohol than does the normal individual. . . . Instability is not the only cause of alcoholic addiction since there are as many unstable men as women in the general population, yet there are many more alcoholic men than women. . . . The chronic alcoholic is the result of an unhealthy social custom, plus environmental accident plus his instability, but a break in any one of these links may save him, just as

escaping the environmental accident saves many potential victims. . . .

Chronic alcoholics present a greater problem than other drinkers to physicians and health officers, and they are treated by the thousands in public hospitals for acute excesses; they die because of these excesses and from complicating conditions. A large proportion of those who escape premature death go from bad to worse until they become psychotic and find their way into hospitals for mental disease. . . .

The entire problem must be approached without passion or prejudice. We must work with and not against human nature. . . .The harm done by alcohol can be reduced to a minimum by education as to the effects of alcohol, by building up social disapproval of excesses, by making it inconvenient and more expensive to get liquor with a high alcohol content, and by providing more and better hospitalization and less jail treatment for alcoholics. . . . It is not enough to know that some people become drunkards because they are unstable; and that they repeatedly relapse to drink because they are weak. It is necessary to know the nature of their instability and weakness. We should know whether in addition to the predisposing physiologic factor, some people have a special sensitivity to alcohol and if so, what the nature of it is.

The above statements are excerpts from an address by Dr. Thomas Parran, Surgeon-General of the United States Public Health Service, at a symposium of the Research Council on Problems of Alcohol, held in Philadelphia in December, 1940, as a part of the annual meeting of the American Association for the Advancement of Science, and abstracted elsewhere in this issue of the *Journal*. The group, which is engaged in studying the problem of alcoholism in an unbiased scientific manner, could not have made a happier choice of spokesman and keynoter, since Dr. Parran is familiar with the problems, both physical and psychologic, that make the care of the nation's health a matter of greatest importance, along with the care of its finances, its defense and the utilization of its resources. Dr. Parran's attitude betokens a new interest on the part of the federal government, greatly in contrast to the previous concern of federal agencies charged with the enforcement of the Eighteenth Amendment of unhappy memory. The research projects that are now in progress independently and under the sponsorship of the Research Council on Problems of Alcohol lend hope to the possibility that within the lifetime of even the older readers of the *Journal* alcoholism may take its place along with tuberculosis, syphilis and the various infectious diseases that are now being brought under control. Perhaps this problem, above that of all other diseases, must be attacked by prevention and education rather than by direct treatment. The greatest assistance that every physician can lend is an attitude of open-mindedness and an appreciation of the well-established fact that excessive drinking is a symptom of a basic disorder of personality.

MEDICAL AID TO CHINA

United China Relief, of which the American Bureau for Medical Aid to China is one of the seven participating agencies, has designated May 18 to 25 as China Week. On May 19, Medical-Aid-to-China Day, Dr. Robert K. S. Lim, director-general of the Medical Relief Corps of the Chinese Red Cross, will broadcast from China, other broadcasts will be given in cities all over the United States, ambulances in certain key cities will solicit funds, and street drives will be held.

Of the tremendous medical problem the war has created in China and of the gallant efforts of such men as Dr. Lim to meet the problem, probably many physicians are aware, and it is hoped that the medical profession will wholeheartedly support this drive to obtain funds that are so badly needed.

MEDICAL EPONYM

Hirschsprung's Disease

Professor Harold Hirschsprung (1830–1916), of Copenhagen, presented to the Gesellschaft für Kinderheilkunde in Berlin, 1886, a report of two cases of "Stuhlträgheit Neugeborener in Folge von Dilatation und Hypertrophie des Colons [Constipation in the Newborn as the Result of Dilatation and Hypertrophy of the Colon]." His paper was printed in the *Jahrbuch für Kinderheilkunde und Physische Erziehung* (**27**: 1–7, 1888). It was not until November 17, 1889, however, that he specifically described "Die angeborene Erweiterung und Hypertrophie des Dickdarms [Congenital Dilatation and Hypertrophy of the Colon]," in an article contributed to the *Paediatrische Arbeiten*

(78–86, Berlin, 1890), which was published as a *Festschrift* in honor of the seventieth birthday of Edouard Henoch. A portion of the translation follows:

> There occasionally occurs in children a congenital marked dilatation of the colon with coincident thickening of its wall — as yet observed only in boys.
>
> The commonest important symptom is difficulty in defecation, beginning immediately after birth and at times associated with enormous distention of the lower abdomen.
>
> It seems that the condition is compatible with continued existence and that occasional cases of habitual stubborn constipation with large abdomen in older children and adults may be due to this congenital affection.
>
> R. W. B.

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MASSACHUSETTS MEDICAL SOCIETY

COMMITTEE OF ARRANGEMENTS

The following physicians have consented to act as aides to the Committee of Arrangements at the annual meeting of the Society on May 21 and 22:

Dr. Robert Barker.
Dr. Richard Dwight.
Dr. Roy J. Heffernan.
Dr. Harrison K. Kennard.
Dr. Stanley Kimball.
Dr. John F. McManus.
Dr. R. Bretney Miller.
Dr. Richard S. Nugent.
Dr. Allen G. Rice.
Dr. Frederick Tudor.
Dr. George C. Tully.

EDWARD J. O'BRIEN, M.D., *Chairman.*

SECTION OF MEDICINE

The Section of Medicine calls attention to the following schedule for the round-table luncheon meeting on Wednesday, May 21, at the University Club:

Subject: The Use and Abuse of Drugs in Heart Disease. Dr. Paul D. White, Boston.

12:00–12:45 Preliminary discussion.
12:45– 1:30 Luncheon.
1:30– 2:00 Question period.

ALBERT A. HORNOR, M.D., *Chairman.*

SECTION OF OBSTETRICS AND GYNECOLOGY*

RAYMOND S. TITUS, M.D., *Secretary*
330 Dartmouth Street
Boston

CESAREAN SECTION AND APPENDECTOMY, FOLLOWED BY BRONCHOPNEUMONIA AND DEATH

A thirty-six-year-old para III entered the hospital at term but not in labor, and an elective cesarean section was performed. She had been seen routinely since the fourth month.

The past history showed that the patient had had no serious medical conditions. Her first delivery, twelve years previously, was said to have been moderately difficult, the baby weighing 7 pounds, 2 ounces. The second delivery six and a half years previously was not so difficult as the first, and the baby weighed 8 pounds.

On physical examination, the heart was not enlarged; there were no murmurs. The lungs were clear and resonant; there were no rales. The blood pressure was normal — 120 systolic, 60 diastolic. There was no edema. The presentation was normal. Cesarean section was decided on because the patient expressed a desire not to go through labor and because she was "in not too good general health." The anesthetic employed was nitrous oxide, oxygen and ether, which was taken badly. The operation included a low cervical cesarean section, sterilization and appendectomy.

On the second postoperative day, the patient's temperature was 103°F., with a pulse of 104. Bronchial breathing was said to have been heard before death, which occurred on the fourth day after operation, and bronchopneumonia was recorded as the cause of death.

Comment. Cesarean section, even when electively performed, carries with it certain risks; pneumonia is one, sepsis another, and hemorrhage a third. There seems very little medical justification for performing such a hazardous operation on a patient who has had two previous pelvic deliveries. The desire of the patient to be saved the discomfort of labor, in this day of comparative freedom from pain afforded by modern analgesics, should never influence the surgical decision. Furthermore, there is some controversy over the advisability of performing an appendectomy at the same time as a cesarean section. Although a few

*A series of selected case histories by members of the section will be published weekly. Comments and questions by subscribers are solicited and will be discussed by members of the section.

men consider such an appendectomy a harmless performance, it is not permitted at the majority of obstetric clinics in Boston.

The patient had excellent obstetric care throughout her pregnancy, and there seems to have been no justifiable reason for performing the cesarean section and the appendectomy, which undoubtedly were major factors in the fatal result. Obstetric rules and regulations should follow the routine laid down by the best metropolitan institutions, and the trustees of hospitals should insist that they be followed explicitly.

DEATHS

MURPHY — Frederick P. Murphy, M.D., of Lowell, died April 26. He was in his sixty-second year.

He received his degree from Tufts College Medical School in 1905. Dr. Murphy was a member of the Massachusetts Medical Society, president of the Middlesex North District Medical Society from 1936 to 1937, a member of the American Medical Association and the New England Obstetrical and Gynecological Society.

SWEET — Frederick B. Sweet, M.D., of Springfield, died May 10. He was in his seventy-second year.

Dr. Sweet received his degree from Yale University School of Medicine in 1893. He had been a trustee of the Springfield Hospital since 1911, and visiting surgeon since 1904. He was also consulting surgeon at the Mary Lane Hospital in Ware and the Wing Memorial Hospital in Palmer.

Dr. Sweet was a member of the Massachusetts Medical Society, president of the Hampden District Medical Society from 1929 to 1930, a fellow of the American Medical Association, and a member of the American College of Surgeons and the New England Surgical Society, of which he had been a president.

His widow and two daughters survive him.

MISCELLANY

ANNUAL PRIZE SUBSCRIPTION

The annual prize subscription offered by the *New England Journal of Medicine* for the best undergraduate contribution to the *Tufts Medical Journal* has been awarded to Ralph M. Myerson, '42, for his paper "Endometriosis," which appeared in the March, 1941, issue. The paper "Hypoglycemia in the Non-Diabetic" by Henry J. Myers, '41, received honorable mention; it will appear in the May issue of the *Tufts Medical Journal*.

MAINE NEWS

Annual Meeting of the Maine Medical Association

The program for the eighty-ninth annual meeting of the Maine Medical Association, to be held at the Marshall House, York Harbor, on June 22, 23 and 24, is as follows:

Sunday, June 22

Golf preliminaries.

4:30 p.m. First meeting of the House of Delegates.

8:30 p.m. Entertainment for the members and their wives.

Monday, June 23

9:30 a.m. Group conferences.

12:30 p.m. Luncheon (tables reserved for alumni of various medical schools and members of the Tumor Clinics).

2:00 p.m. Introduction of visiting delegates.

2:00 p.m. Scientific session.

5:00 p.m. Election of president-elect.

5:30 p.m. Second meeting of the House of Delegates.

7:00 p.m. Reception to President and his wife.
Dinner and dancing.
Presentation of fifty-year medals.

Tuesday, June 24

9:30 a.m. Group conferences.

12:30 p.m. Luncheon (tables reserved for past presidents and county secretaries).

2:00 p.m. Scientific session.
Golf finals.

7:00 p.m. Banquet (dress informal):
Address: Frank H. Lahey, M.D., president, American Medical Association.

RÉSUMÉ OF COMMUNICABLE DISEASES IN MASSACHUSETTS FOR MARCH, 1941

Diseases	March 1941	March 1940	Five-Year Average*
Anterior poliomyelitis	1	1	0
Chicken pox	1408	1471	1441
Diphtheria	8	7	14
Dog bite	671	727	740
Dysentery, bacillary	3	36	12
German measles	147	56	235
Gonorrhea	324	308	420
Lobar pneumonia	370	609	744
Measles	3127	1486	2957
Meningococcus meningitis	10	3	17
Mumps	1349	866	1326
Paratyphoid B fever	3	11	4
Scarlet fever	651	608	1141
Syphilis	462	501	540
Tuberculosis, pulmonary	318	218	277
Tuberculosis, other forms	33	20	35
Typhoid fever	3	3	5
Undulant fever	6	5	3
Whooping cough	969	644	920

*Based on figures for preceding five years.

RARE DISEASES

Anterior poliomyelitis was reported from: Framingham, 1; total, 1.

Diphtheria was reported from: Auburn, 1; Boston, 3; Fall River, 1; Malden, 1; Newburyport, 2; total, 8.

Dysentery, bacillary, was reported from: Boston, 1; Danvers, 1; Southborough, 1; total, 3.

Infectious encephalitis was reported from: Agawam, 1; Springfield, 1; total, 2.

Malaria (therapeutic) was reported from: Foxboro, 1; total, 1.

Meningococcus meningitis was reported from: Barre, 1; Boston, 2; Brockton, 1; Dartmouth, 1; New Bedford, 3; Ware, 1; Winthrop, 1; total, 10.

Paratyphoid B fever was reported from: Adams, 1; Belmont, 1; Peabody, 1; total, 3.

Pfeiffer bacillus meningitis was reported from: Worcester, 1; total, 1.

Rocky Mountain spotted fever was reported from: Northampton, 1; total, 1.

Septic sore throat was reported from: Amesbury, 3; Ashland, 1; Beverly, 2; Boston, 3; Cambridge, 1; Chicopee, 1; Concord, 2; Fall River, 2; Lynn, 2; Malden, 1;

Medford, 2; Millbury, 1; Monson, 1; Waltham, 1; total, 23.

Trachoma was reported from: Arlington, 1; Boston, 1; Peabody, 1; total, 3.

Trichinosis was reported from: Boston, 1; total, 1.

Typhoid fever was reported from: Holyoke, 1; Spencer, 1; Winthrop, 1; total, 3.

Undulant fever was reported from: Boston, 1; Leominster, 2; Somerset, 1; Westford, 2; total, 6.

The first case of anterior poliomyelitis for the year was reported in March.

Chicken pox, diphtheria, bacillary dysentery, meningococcus meningitis and tuberculosis (other forms) were reported below the five-year averages.

The number of cases of dog bite increased over the first two months of this year, but it is the lowest reported for the month since 1934.

Although German measles was reported below the five-year average, more cases were reported than in any corresponding month since 1936.

Lobar pneumonia was reported at a record low figure for the month.

Scarlet fever increased, although it was reported below the five-year average.

Whooping cough was reported above the five-year average.

Typhoid fever and paratyphoid fever showed low incidences.

Measles, which has climbed steadily since October, showed a sudden upswing in March.

There was a slight upward swing of undulant fever.

CORRESPONDENCE

MEDICAL STUDENTS IN RELATION TO THE SELECTIVE SERVICE ACT

To the Editor: I believe that in carrying out the provisions of the Selective Service Act we should do well to bear in mind the spirit as well as the letter of the law — at times even shading the latter in favor of the former. Our aim is speed and efficiency in preparedness. When immediate speed may sacrifice ultimate efficiency, we should prefer the latter.

The question of medical-school students is one worthy of careful scrutiny. A medical man spending one year to become a soldier would be of no added value to his country since he would never be used in that capacity — hence, a waste of national funds.

If the students now in a Grade A medical school are removed for defense training, the school will be gradually depleted of its best men. It must either admit men of less ability, resulting in a lowered standard of physicians for army and civilian needs, or refuse to replace them and so limit the number available. Both alternatives affect ultimate efficiency and do harm to the nation.

I have said a year spent in military camp by a medical man is wasted to the country because he will not be used as a soldier. A student becomes of less value to the profession and the nation in so far as his training is interrupted. From discussions with others I learn that, if taken for defense training, some students will not return to the medical profession at all: first, because of the expense; secondly, because the six or eight years of further training are already long and adding another year makes this long period prohibitive.

Our best medical schools are unsurpassed anywhere. Students are selected on the basis of marked aptitude and about one out of eight or ten applicants is accepted. These men show promise of supplying our future needs in all branches of medicine and surgery.

I am told that the average I.Q. of the selective-service men at one of our largest camps is extremely low. With less than a high-school education, it takes one year to make a soldier. It takes ten years for a high-school graduate to become a good doctor, and thirteen to become a specialist.

This is the age of scientific warfare. Men in training for specialized work in this and other occupations essential to preparedness should not be hindered; on the contrary, every precaution should be taken to see that their training is completed as soon as possible.

A "Memorandum to All State Directors (1–10)," dated March 7, 1941, from the National Headquarters of the Selective Service System explains in further detail what discretionary powers the local board may exercise. Deferment in Class II-*A* is permitted "where the activity for which the registrant is in training or preparation is one essential to the national health, safety or interest, and the registrant is found to be a necessary man." Group deferments may not be made. "The period of deferment in Class II-*A* may not exceed six months, but such deferment may be renewed from time to time if the local board finds that such continuance is justified under the regulations." In other words the local board must consider all the evidence submitted in connection with each individual case and must decide each case on its particular facts.

Since writing the above I have learned something of the English point of view (*Science*, April 4, 1941): "Medical students in England are not subject to draft." Extraordinary precautions are taken to ensure uninterrupted preparation. To this end some of the students are being sent to this country and Canada. I quote, "A break in the chain of medical teaching in any country spells disaster for the coming generation."

Finally from Washington comes the last bit of evidence. The Murray Bill — aimed at exempting medical students from service until they are thoroughly trained — has been defeated. Strangely ironic is the President's appeal for one thousand doctors to go at once to England, so soon on top of the defeat of that bill. Send them by all means since they are so sadly needed, but in the face of this conclusive proof of the importance of trained physicians in time of war we are deliberately inviting the same disaster by cutting down our own future supply!

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REPORTS OF MEETINGS

HARVARD MEDICAL SOCIETY

A regular meeting of the Harvard Medical Society was held at the Peter Bent Brigham Hospital on February 11, with Dr. Soma Weiss presiding.

The first case, presented by the medical service, brought up the differential diagnosis between pneumonia and lung abscess. The patient had been given sulfathiazole treatment. In discussing the case, Dr. Maxwell Finland stated that the signs and symptoms more or less resembled those of a virus pneumonia but that the x-ray appear-

ance was solid rather than flaky. The rash across the bridge of the nose closely simulated that of sulfathiazole, which has also caused episcleritis in a few cases and in which the skin lesions are marked on the elbows and knees, as in erythema nodosum. Dr. Merrill C. Sosman described the roentgen findings in virus pneumonia as being more of a diffuse haze similar to that of congestive failure. Dr. Weiss cited two cases of staphylococcal pneumonia treated with sulfathiazole for eight or nine days with persistent fever, which decreased when chemotherapy was stopped. Dr. Finland stated that longstanding fluid is often sterile and that adhesions may simulate empyema by x-ray study.

The second case, presented by the surgical service, was that of a middle-aged woman with a complicated past history whose operation for cholecystitis was delayed five days by an upper respiratory infection. Her postoperative course was uneventful until the fourteenth day, when she had a chill, severe chest pain, a dry painful cough, a fever of 102°F. and some tenderness of the left leg. There were respiratory difficulty and hemoptysis, and the sputum revealed Type 29 pneumococcus. The signs remained unchanged until the third day, when sulfathiazole therapy was instituted and gradual improvement began. Dr. Elliott C. Cutler briefly discussed postoperative pulmonary complications. The most frequent immediate problem is that of atelectasis, whereas, later, embolic phenomena are commoner, as in this case. Dr. Cutler considered it wise to employ the sulfonamides more generally in pulmonary infarction to ward off incipient secondary infection. Dr. Finland stated that the higher types of pneumonia are often from the throat and may not be significant, although secondary infection is very common in such cases as the one described above. It has been found that early postoperative pneumonias have significant pneumonia types and bacteremia about half as often as true lobar pneumonias, so that at least a part of them are true pneumonias that are incidental to the operation.

The speaker of the evening was Dr. Maxwell Finland, of the Boston City Hospital, whose subject was "Treatment of Pneumonia." As an indication of what may be expected among the armed forces during the present war, the speaker cited statistics among the African mine workers, whose condition and environment can certainly be no better than those of our troops. In this group the mortality has dropped from 13 per cent in a period from 1934 to 1937 to 6 per cent in 1938, following the introduction of sulfapyridine, and to slightly over 2 per cent in 1939. Although the results at an institution like the Boston City Hospital cannot be improved so markedly, it is possible by well-controlled observations on a large series of patients to evaluate the relative merits of drugs and to determine the status of specific antipneumococcus serum. On the whole, one should use the easiest, safest and cheapest method of treatment, but should be prepared to use auxiliary methods in any case in which it may significantly improve or cure an otherwise lost patient.

It was emphasized that there are always drug failures when enough cases are observed. In the first season of sulfapyridine at the Boston City Hospital the mortality with serum was only 13 per cent, as compared with that of 18 per cent for chemotherapy and 24 per cent for combined treatment. Most statistics failed to show this favorable result with serum because it is used either not enough or not well enough. More of the sick patients receive the combination treatment because of drug failures, which would increase the mortality of the drug-treated patients if properly interpreted. The statistics at the Boston City Hospital for the last three years were essentially the same except in the increase in the number of patients treated and the significant lowering of the mortality with sulfathiazole treatment. However, when the statistics were broken down in regard to bacteremia, age, number of lobes involved and so forth, it was found that the results in each group were identical, regardless of the drug used. Since all data now indicate that the drugs are equally effective in comparable cases, the ease and safety of administration become important. In this regard sulfathiazole results not only in less nausea and vomiting than sulfapyridine, but what is more important, the severity is far less. Relapse is also much less frequent, and this may be attributable to the early discontinuance that is so often necessary with sulfapyridine. Urinary complications are about the same but may be decreased when it is learned that the circulating blood levels do not need to be so high. Anemia and leukopenia occur slightly less often with sulfathiazole, whereas drug fever and rash occur three times as often with this drug, sometimes even after it has been omitted. The distinctive rash of sulfathiazole has been described above. It was concluded, therefore, that although sulfathiazole is not definitely less toxic, it is much easier to administer and therefore becomes a choice when pleasing the patient is so important.

The drug level is usually considered best at 4 or 5 mg. per 100 cc., but many good results have been obtained with lower levels. The favorable response with these variable and low levels may be explained by the fact that the bacteria are often either of low virulence or in small numbers so that even less than 1 mg. per 100 cc. is effective, especially if a medium is free of inhibiting substance. The newest sulfonamide, a guanidine compound, has a more sustained and higher level in the blood, owing to a lesser degree of acetylation, and all toxic symptoms seem less severe. Preliminary results seem to indicate that it is at least as effective as the other drugs.

The status of specific serum therapy has now become difficult to evaluate because of the availability of the comparatively easily administered drugs. Combination therapy apparently offers the best results both experimentally and from what few clinical data are at hand. Owing to its earlier action, serum may be advantageous in the more serious cases, such as those in the aged, those with bacteremia and those in which several lobes are involved. Serum may decrease the numbers of bacteria to a level where the drug may be effective. It is probably also beneficial in cases that fail to respond to chemotherapy within forty-eight hours, for the bacteria not killed at that period have become acclimated to the drug and are no longer amenable to such treatment. It is important to realize that in some cases serum is ineffective when used late, and that one should probably attempt to evaluate the cases early, so that serum may be given then if it is necessary.

In conclusion, Dr. Finland briefly discussed the recent respiratory epidemic, in which many cases of pneumonia arose as a complication. The initial attack seemed to be characteristic influenza often with a negative chest examination. There was a high incidence of staphylococcal pneumonia with bacteremia in some and empyema in others, with a definite tendency toward spontaneous cure. There were many cases of persistent sterile effusions; others went on to abscess formation. Roentgenograms were variable, revealing consolidation or rarefaction, or

both, similar to the lesions of virus or staphylococcal pneumonia.

The discussion was opened by Dr. John Enders, who described the isolation of a virus from uncomplicated cases of influenza that had a typical response in ferrets similar to that of Type A. Dr. Joseph H. Pratt stated that there had been only three deaths in 89 patients at his clinic, two of these being patients with chronic alcoholism and the other an eighty-year-old cardiac patient. Dr. Donald S. King presented statistics from the Massachusetts General Hospital revealing that the mortality for the year preceding the introduction of chemotherapy was less than that of the past year. Results from the Montreal General Hospital in 100 cases treated with sulfapyridine showed a 7 per cent mortality. They have also experienced the same staphylococcal pneumonias following the recent influenza epidemic.

BOSTON ORTHOPEDIC CLUB

A regular meeting of the Boston Orthopedic Club was held on February 17, with Dr. Robert J. Joplin presiding. Dr. W. L. Aycock spoke on "The Epidemiology of Paralysis in Poliomyelitis." In introduction, he remarked that many theories have been advanced because of the lack of an adequate single explanation, and that the tendency is to offer the most bizarre ones. Since observations in this disease are limited by Nature and most series are small, generalizations are apt to be drawn from limited observations and contradictory facts appear.

It was emphasized that the distribution patterns of the virus and the paralytic form of the disease are not necessarily the same. The virus is widespread, as in all infectious diseases. Dr. Aycock deprecated the tendency toward emphasizing the method of spread and implicating the gastrointestinal tract. The mere presence of an organism does not necessarily indicate its importance, and the finding of the tubercle bacillus or the measles virus in the feces does not mean that this is their mode of transmission.

Paralysis is limited, irregular and selective, despite the widespread occurrence of the virus of poliomyelitis. Therefore, something in the person exposed probably determines in large measure who shall be paralyzed. Dr. Aycock discussed various selectivities. Warm climates and seasons apparently decrease the incidence of paralysis despite the same prevalence of the virus as shown by immunity studies. This is a physiologic rather than an anatomic selectivity. That there is some inherent familial tendency seems to be borne out by the higher incidence in affected families than in the general population and the more frequent recurrences. This is in marked contrast, for example, to measles. The possibility of an endocrine factor is suggested by the higher incidence of paralysis in the Fröhlich type of person. Such patients, although not of that habit at the time of the attack, may develop obesity of that distribution at puberty. Many observers do not agree with this observation, which is a clinical one.

Another argument in favor of an endocrine factor is the high incidence of paralysis during pregnancy. This may also indicate a mucous-membrane susceptibility, which is supported by other observations, for the endocrines involved in pregnancy are known to affect the cornification of mucous membrane. Long in Detroit found that there were more than four times as many cases of paralysis during pregnancy as would be expected from statistics. Another observation in favor of a susceptible mucous membrane is the relation of bulbar paralysis to postoperative tonsillectomy and adenoidectomy. The occurrence on the seventh to the fourteenth day postoperatively fits well with the supposed incubation period of poliomyelitis. At the Children's Hospital, of 400 cases of spinal paralysis only 2 occurred following adenoidectomy, whereas 17 of 132 cases of bulbar paralysis occurred following tonsillectomy.

In experimental primates it has been found that castrates treated with estrin become paralyzed early, if at all, and that the incidence in this group is definitely lower than in the nontreated group, who all develop paralysis. In human beings, there is an elevated urinary estrogen in pregnancy, but an increased excretion does not indicate an increased utilization of hormone. Furthermore, the urinary estrogen levels are higher, no matter how separated, in all cases of poliomyelitis.

Dr. Aycock stated that none of the three usual methods of control are feasible. The disease cannot be checked at its source when the reservoir is the entire population. Spread can hardly be prevented when human intercourse is the only known method of spread. Vaccination was held nonfeasible when an entire population must be vaccinated and the incidence of paralysis at most is only one in a million. Furthermore, there will probably never be a safe vaccine. Exposures cannot be limited or accurately judged in comparison with other dangerous diseases such as rabies.

The discussion was inaugurated by Dr. Frank Ober, who emphasized the occurrence of multiple cases in families, particularly the less severe, abortive cases. Thirty per cent of so-called "abortive cases" in Vermont were subsequently found to have a facial paralysis — evidence that more than the limbs should be examined. In regard to climate, Dr. Ober is not so sure it is not dietary habits that play a role — possibly vitamin B. For there has been an inadequate diet in Vermont and the South. It is interesting that in a southern town of 60,000 population, where there was said to be no poliomyelitic paralysis, Dr. Ober was able without advance notice to round up 11 cases. The finding of so many endocrine types at the Children's Hospital had led him to believe that a certain physiologic pattern may develop paralysis.

Dr. Moses H. Lurie discussed the susceptibility of the nasopharyngeal mucous membrane to the poliomyelitic virus. He did not consider estrogens beneficial in the treatment of atrophic rhinitis. He has observed that 60 per cent of the patients who develop post-tonsillectomy paralysis have the bulbar type. It is well known that the mucous membranes are not intact for thirty days postoperatively. In cases of paralysis following vaccination, the region of the cord affected was that supplied by the nerve at the injection site. Since the glossopharyngeal, vagus and spinal accessory nerves are essentially one system, — the nucleus and ambiguus, — it is conceivable that the virus travels along the first of these and affects the whole system. Therefore, tonsillectomy is not advocated during an epidemic because of the danger of bulbar rather than spinal paralysis. It was stated that the incidence of paralysis is probably no greater than that of other infectious diseases.

Dr. Aycock concluded the meeting by emphasizing that vaccination is not feasible in such a usually innocuous disease. In fact the disease itself is really a successful vaccination, since only an occasional person develops paralysis of the many who are exposed. In contradiction to the diet theory, he pointed out that only certain Vermont families develop paralysis where all eat the same food, whereas members of a family develop the condition despite diet, living conditions and geographic differences.

NOTICES

BOSTON CITY HOSPITAL

There will be a staff clinical meeting of the Boston City Hospital on Friday, May 23, at 12 m. in the Cheever Amphitheater, Dowling Building.

PROGRAM

The Peculiarities of Disease in Children. Dr. James W. Redmond.
The Neurological Aspects of Pediatrics. Dr. Eli Friedman.
Dermatological Conditions in Pediatrics. Dr. Francis J. Wenzler.
Borderline Conditions, Medical and Surgical, in Pediatrics. Dr. John C. Faherty.
The Anemias in Children. Dr. Eugene F. Callanan.
Allergy in Children. Dr. Abraham N. Caplan.

SOUTH BOSTON MEDICAL SOCIETY

The thirty-sixth annual meeting of the South Boston Medical Society will take place on Monday, May 19, at the Harvard Club, Boston.

PROGRAM

6 p.m. Business meeting.
7 p.m. Dinner.
Dr. Chester S. Keefer will speak on "The Modern Treatment of Meningitis."

Reservations for the dinner should be made by Saturday, May 17, and should be sent to Dr. J. Charles Seymour, secretary, 534 Broadway, South Boston.

NEW ENGLAND SOCIETY OF PHYSICAL MEDICINE

The annual business meeting of the New England Society of Physical Medicine will be held at The Copley-Plaza on Wednesday, May 21, at 5 p.m. Reports of officers and committees will be presented, and officers for the ensuing year will be elected.

UNITED STATES CIVIL SERVICE EXAMINATIONS

Senior Medical Officer, $4600 a Year
Medical Officer, $3800 a Year
Associate Medical Officer, $3200 a Year

The United States Civil Service Commission has announced open competitive examinations to fill medical-officer positions in the United States Public Health Service and Food and Drug Administration, Federal Security Agency; Veterans Administration; Civil Aeronautics Authority, Department of Commerce; and Indian Service, Department of the Interior. Applications must be filed with the United States Civil Service Commission, Washington, D. C., and will be rated as received until further notice.

Applicants must have graduated with an M.D. degree from a recognized medical school, and must have had professional experience in one of the following optional branches: aviation medicine; cancer research; cardiology; dermatology; eye, ear, nose and throat (singly or combined); general practice; industrial medicine; internal medicine and diagnosis; medical pharmacology; neuropsychiatry; pathology; bacteriology and roentgenology (singly or combined); public health; surgery; tuberculosis; and urology. For some positions in the Veterans Administration applicants for associate medical officer, paying $3200 a year, need not have had experience other than one year of internship. Applicants for the associate grade must not have passed their fortieth birthday, and for the other two grades must not have passed their fifty-third birthday.

Full information regarding the examinations and the application forms may be obtained from the Secretary, Board of United States Civil Service Examiners, at any first-class or second-class post office, or from the United States Civil Service Commission, Washington, D. C.

SOCIETY MEETINGS AND CONFERENCES

CALENDAR OF BOSTON DISTRICT FOR THE WEEK BEGINNING SUNDAY, MAY 18

MONDAY, MAY 19

12:15–1:15 p.m. Clinicopathological conference. Peter Bent Brigham Hospital amphitheater.
6 p.m. South Boston Medical Society. Harvard Club, Boston.

TUESDAY, MAY 20

*9–10 a.m. Clinicopathological conference. Drs. C. S. Keefer and H. E. MacMahon. Joseph H. Pratt Diagnostic Hospital.
*12 m. Certain Practical Aspects of Blood Disorders as Seen by the General Practitioner. Dr. Henry Jackson, Jr. South End Medical Club. Headquarters of the Boston Tuberculosis Association, 554 Columbus Avenue, Boston.
12:15–1:15 p.m. Clinicoroentgenologic conference. Peter Bent Brigham Hospital amphitheater.

WEDNESDAY, MAY 21

Annual meeting, Massachusetts Medical Society. The Copley-Plaza, Boston.
*9–10 a.m. Hospital case presentation. Dr. S. J. Thannhauser. Joseph H. Pratt Diagnostic Hospital.
*12 m. Clinicopathological conference. Children's Hospital.
3 p.m. Massachusetts Medico-Legal Society. The Copley-Plaza. State salon.
5 p.m. New England Society of Physical Medicine. The Copley-Plaza, Boston.

THURSDAY, MAY 22

Annual meeting, Massachusetts Medical Society. The Copley-Plaza, Boston.
*9–10 a.m. Extrarenal Azotemia. Dr. Emanuel Ginsburg. Joseph H. Pratt Diagnostic Hospital.

FRIDAY, MAY 23

*9–10 a.m. Some Current Problems in Gastroiatestinal Surgery. Dr. Richard Warren. Joseph H. Pratt Diagnostic Hospital.
12 m. Boston City Hospital, staff clinical meeting. Cheever Amphitheater, Dowling Building.

SATURDAY, MAY 24

*9–10 a.m. Hospital case presentation. Dr. S. J. Thannhauser. Joseph H. Pratt Diagnostic Hospital.

*Open to the medical profession.

MAY 28–JUNE 2 — American Board of Obstetrics and Gynecology. Page 262, issue of February 6.
MAY 29–31 — Medical Library Association. Page 671, issue of April 10.
MAY 30, 31 — American Heart Association. Hotel Statler, Cleveland.
MAY 30–JUNE 2 — American College of Chest Physicians. Hotel Statler, Cleveland.
JUNE 2 — American Medical Golfing Association. Page 785, issue of May 1.
JUNE 2–6 — American Medical Association. Cleveland.
JUNE 2–6 — Woman's Auxiliary, American Medical Association. Hotel Carter, Cleveland.
JUNE 4 — Harvard Medical Alumni Association. Page 790, issue of May 1.
JUNE 22–24 — Maine Medical Association. Marshall House, York Harbor, Maine.
OCTOBER 13–24 — 1941 Graduate Fortnight of the New York Academy of Medicine. Page 834, issue of May 8.
OCTOBER 14–17 — American Public Health Association. Page 579, issue of March 27.

BOOKS RECEIVED

The receipt of the following books is acknowledged, and this listing must be regarded as a sufficient return for the courtesy of the sender. Books that appear to be of particular interest will be reviewed as space permits. Additional information in regard to all listed books will be gladly furnished on request.

The Pharmacology of Anesthetic Drugs: A syllabus for students and clinicians. By John Adriani, M.D., instructor in anesthesia, New York University College of Medicine, and assistant visiting anesthetist, Bellevue Hospital. 4°, cloth, 86 pp., with 102 illustrations. Springfield, Illinois: Charles C Thomas, 1941. $3.50.

Help Your Doctor to Help You. A series of five medical books: *Gastric or Duodenal Ulcer,* 53 pp., *Gallstone and Disease of the Gallbladder,* 41 pp., *Colitis,* 30 pp., *Food Allergy,* 50 pp., *Sick Headache or Migraine,* 37 pp. Editorial Board: Dr. Walter C. Alvarez, editor-in-chief, Dr. George Blumer, Dr. Logan Clendening, Dr. Irving Cutter, Dr. Howard W. Haggard, Dr. Rudolph Matas, Dr. Charles W. Mayo, Dr. George R. Minot, Dr. John H. Stokes and Dr. George H. Whipple. 12°, cloth. New York: Harper and Brothers, 1941. 95c each.

How to Prevent Goiter. By Israel Bram, M.D., medical director, Bram Institute for Goiter and Other Glandular Disease. 8°, cloth, 182 pp., with 21 illustrations. New York: E. P. Dutton and Company, Incorporated, 1941. $2.00.

Textbook of Pediatrics. By J. P. Crozer Griffith, M.D., Ph.D., emeritus professor of pediatrics, University of Pennsylvania, consulting physician to the Children's Hospital, Philadelphia, and consulting physician to St. Christopher's Hospital for Children, consulting pediatrist to the Woman's, the Jewish, and the Misericordia hospitals; and A. Graeme Mitchell, M.D., B.K. Rachford Professor of Pediatrics, College of Medicine, University of Cincinnati, medical director and chief of staff, Children's Hospital of Cincinnati, director, Children's Hospital Research Foundation, and director, Pediatric and Contagious Services, Cincinnati General Hospital. Third edition, revised and reset. 8°, cloth, 991 pp., with 220 illustrations and 66 tables. Philadelphia: W. B. Saunders Company, 1941. $10.00.

Endocrinology: The glands and their functions. By R. G. Hoskins, Ph.D., M.D., director of research, The Memorial Foundation for Neuro-Endocrine Research, and research associate in physiology, Harvard Medical School. 8°, cloth, 388 pp., with 14 illustrations. New York: W. W. Norton and Company, Incorporated, 1941. $4.00.

Neurology: Lectures for medical students and general practitioners. By Knud H. Krabbe, M.D., chief physician, Department of Neurology, Kommunehospitalet, Copenhagen. 8°, paper, 387 pp., with 4 illustrations. Copenhagen, Denmark: Einar Munksgaard, 1941. $12.00.

Essentials of Dermatology. By Norman Tobias, M.D., senior instructor in dermatology, St. Louis University, assistant dermatologist, Firmin Desloge and St. Mary's hospitals, and visiting dermatologist, St. Louis City Sanitarium and Isolation Hospital. 12°, cloth, 497 pp., with 143 illustrations. Philadelphia: J. B. Lippincott Company, 1941. $4.75.

Cardiac Classics: A collection of classic works on the heart and circulation with comprehensive biographic accounts of the authors. Fifty-two contributions by fifty-one authors. By Frederick A. Willius, M.D., M.S. (med.), chief, Section of Cardiology, The Mayo Clinic, and professor of medicine, The Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota; and Thomas E. Keys, A.B., M.A., reference librarian, The Mayo Clinic. 4°, cloth, 858 pp., with 102 illustrations. St. Louis: The C. V. Mosby Company, 1941. $10.00.

Transactions of the American Association of Genito-Urinary Surgeons: Fifty-second annual meeting held at Williamsburg, Virginia. June 20, 21 and 22, 1940. Volume XXXIII. 8°, paper, 314 pp., with 123 illustrations and 18 tables. St. Paul, Minnesota: The Bruce Publishing Company, 1941.

BOOK REVIEWS

Atlas of Electroencephalography. By Frederic A. Gibbs, M.D. and Erna L. Gibbs. F°, cloth, 221 pp., with 18 figures and 102 plates. Cambridge, Massachusetts: Lew A. Cummings, 1941. $7.00.

If there were a "hit parade" of medical publications, this volume would soon warrant a place high on the list. There are few, if any, authors who can write more authoritatively on electroencephalography, for the labors of Dr. and Mrs. Gibbs have been foremost in raising the technic and application of the field from obscurity to a place where it is one of the most valuable diagnostic technics available to the neurologist and neurosurgeon. The physical makeup of the book is impressive at first glance, and as one goes between the covers, its importance becomes increasingly evident.

An interesting format has been employed: sample electroencephalographic tracings occupy the right page, with their interpretation and comment opposite them on the left in one column; another column on the left page carries the text. The work is dedicated to Dr. Hans Berger, "father of electroencephalography," and acknowledgment is made in the preface to other workers in the field, to the technical and engineering staff who developed the equipment and to the co-operating institutions from which the material for the tracings was obtained. Enough tracings are reproduced so that the cortical activity for ten seconds or longer can be followed. The records from three or more leads are included, usually the frontal, the parietal and the occipital, unless some particular feature makes a deviation from this practice preferable.

A great many normal records are included for various ages, during sleep and under other more or less standardized conditions. There are, of course, a large number of tracings from patients with various types of epilepsy and in various stages of seizures. The "interseizure" records are especially interesting, since it is relatively seldom that a diagnostic tracing can be obtained during a convulsion unless the patient is hospitalized. The characteristic changes during hyperventilation and under the effects of low oxygen tensions are well demonstrated. Typical records from patients with birth injuries, meningitis and encephalomyelitis, multiple sclerosis, cerebral arteriosclerosis, migraine and chorea are included, and in each case the characteristic features are described. Perhaps the tracings from brain-tumor and cerebral-hemorrhage localization studies are most interesting aside from those of convulsive type.

The history of electroencephalography, the activity of the cortex and its similarity to that of other tissues are carefully discussed in the text. The technic is described sufficiently, so that a reader who is unfamiliar with the procedure can become oriented. The authors state that the purpose is not to present a textbook but to furnish eye-training, so that a person may be able to recognize the range of the normal activity and recognize obvious mass abnormalities, as well as to present enough information to make the figures understandable. It appears that they have succeeded in these aims and have done a great deal more than that. The bibliography is complete and comprehensive. The book will be especially useful for teaching and reference purposes, since no other work of its type is available.

A Manual of Embryology: The development of the human body. By J. Ernest Frazer, D.Sc. (Lond.), F.R.C.S. (Eng.). Second edition. 8°, cloth, 523 pp., with 282 illustrations. Baltimore: Williams and Wilkins Company, 1940. $9.00.

The author retains, in this new edition, the plan originally adopted: to give the student some sort of connected mental picture of the developing embryo, rather than a patchy series of discrete descriptions of the formation of organs. There are few changes in the text, a few new drawings have been introduced, and the discussion of the fetal circulation has been recast. Teachers would do well to draw attention to this book.

Bailey's Text-Book of Histology. By Philip E. Smith, Ph.D., Russell L. Carpenter, Ph.D., Wilfred M. Copenhaver, Ph.D., Charles M. Goss, M.D., and Aura E. Severinghaus, Ph.D. Tenth edition. 8°, cloth, 764 pp., with 448 illustrations. Baltimore: Williams and Wilkins Company, 1940. $6.00.

Here is an excellent textbook of histology. As in previous editions, the five authors have succeeded well in correlating structure with function and in discussing the physiologic significance of the structures described. The book is enriched with many fine illustrations, and the references at the end of each chapter should adequately meet the needs of students who desire to carry out collateral reading on any topic. In this edition, two new chapters have been added — one on morphogenesis, and the other on the organization of nervous tissues. The chapter on nervous tissues has been entirely rewritten, and all the other chapters have been revised.

Bone Graft Surgery in Disease, Injury and Deformity. By Fred H. Albee, M.D., LL.D., Sc.D. Assisted by Alexander Kushner, M.D. 4°, cloth, 403 pp., with 297 illustrations. New York: D. Appleton-Century Company, Incorporated, 1940. $7.50.

A work sponsored by a pioneer in bone-graft surgery demands attention. The field has been thoroughly covered, and the presentation of the material with the excellent illustrations leaves little to be desired. The introductory discussion of the fundamental principles underlying the grafting of bone is clearly stated. Then follows a chapter setting forth the armamentarium essential to the attainment of the best results in the practice of the art. Anyone who has had any experience with the various technics knows that success depends on the possession of proper tools and long practice in their use. It is beyond question that many failures are to be traced to the lack of necessary equipment and of adequate technical skill.

Minute directions are given for the application of grafting technics to the many conditions for which its aid has been invoked — from spinal fusion for many pathologic and traumatic conditions and lesions at and about the hip joint; to ununited fractures, repair of skeletal defects, plastic bone surgery, arthrodesis and bone block. One can subscribe to all that has been said about the perfection of the technics described without agreeing with the author's enthusiasm in advocating these methods in all the conditions in which he champions their employment.

The Clinical and Experimental Use of Sulfanilamide, Sulfapyridine and Allied Compounds. By Perrin H. Long, M.D., and Eleanor A. Bliss, Sc.D. 8°, cloth, 319 pp. New York: The MacMillan Company, 1939. $3.50.

This is a complete treatise on the clinical and experimental use of sulfanilamide and allied compounds at the Johns Hopkins Hospital. No one in this country has had a wider experience or done more in the experimental field to develop the use of these drugs. The book is a fundamental text. It is a thorough survey in every detail. It has already become a classic contribution to the subject.

Practical Handbook of the Pathology of the Skin: An introduction to the histology, pathology, bacteriology and mycology of the skin with special reference to technique. By J. M. H. Macleod, M.D., F.R.C.P. (Lond.); and I. Muende, M.B., B.Sc. (Lond.) Second edition. 8°, cloth, 415 pp., with 27 colored and 125 black-and-white illustrations. New York: Paul B. Hoeber, Incorporated, 1940. $9.00.

The first edition of this handbook, published in 1903, became so popular that it was soon out of print. Since then dermatologists have repeatedly requested a second edition, and this present volume of Macleod's, assisted by Muende, should have the same popularity. It presents the subject of pathologic changes in the skin very clearly and briefly. Practically all recent advances are incorporated in this small volume, containing only a little over four hundred pages. The arrangement is of particular value to the students of dermatology.

There is a discussion of the histology and pathology of the various layers of the skin, beginning with the epidermis as a whole and taking up the individual elements that make up these layers. The corium as a whole is then described, before considering its individual components. The skin appendages are then discussed. The various technical methods are briefly outlined, describing the origin and use of special stains.

There are excellent color and black-and-white photographs to illustrate the text. The experience of long years of teaching is demonstrated by the excellent brief reviews outlined at the end of various sections of the book. The chapter on hair and its pathology is well worth reading.

The authors have failed to mention a few advances, such as the method of studying heavy-metal pigmentation of the skin by the darkfield method, the picture of hemachromatosis and the causative factors of Pinta. The chapter on fungous infections of the skin, although brief, contains sufficient information for the average dermatologist who is not doing special work in mycology.

The authors should be congratulated on their excellent text, which should be in the libraries of all students and practitioners of dermatology.